

High speed train bogie accelerometer



Description

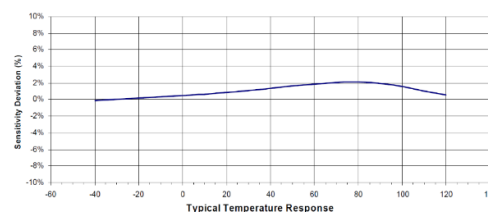
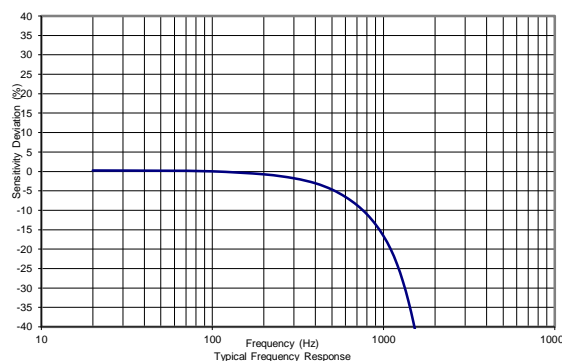
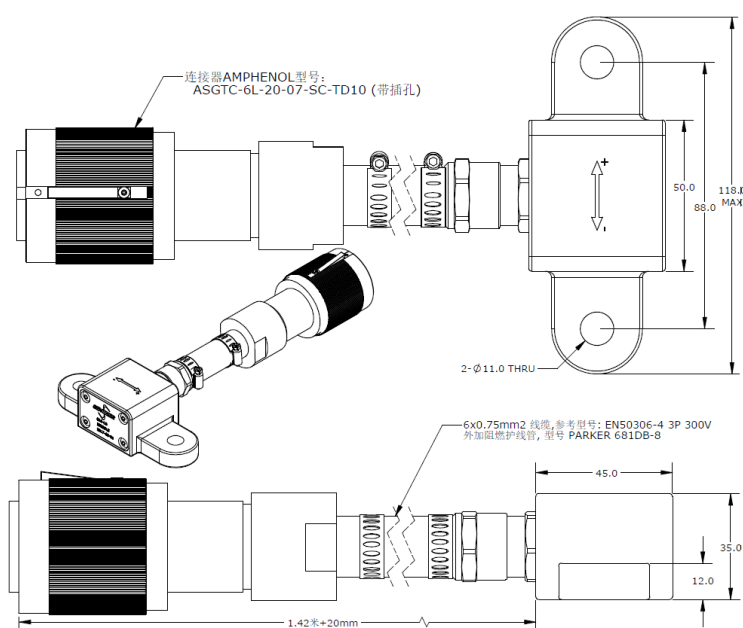
Model 816 is a high-sensitivity, variable capacitance accelerometer which measures static acceleration and low-frequency vibration. 816 is a capacitive accelerometer family utilizes a silicon Micro-Electro-Mechanical System (MEMS) variable capacitance sensing element. The sensing element consists of a very small inertial mass and a flexure element cantilever positioned between two plates. As the mass deflects under acceleration, the capacitance between these plate changes. AC excitation and synchronous amplitude demodulation circuitry contained in the accelerometer's internal signal conditioner provides an analog output signal proportional to the applied acceleration. This output signal is scaled as a current which is proportional to the applied acceleration. The output signal format is 4~20mA loop current. The accelerometer is powered by a single regulated supply between 12 to 30 Vdc. The sensing element and electronics are contained in a tough housing with an integral cable terminated by pigtailed or specified connector. Signal ground is isolated from the test object that benefit by the anodized aluminum housing. The accelerometer can be mounted by M10 metric screw or adhesive. 816 is well-suited for a wide variety of high speed train applications requiring precision measurements and reliability package.

Features

- DC response
- 10g full scale
- Motion, low frequency, tilt
- Shock survivability
- Temperature compensation

Application

- Vehicle turning acceleration
- High speed train
- Maglev dynamic position
- Suspension monitoring
- Static acceleration
- Transmission test



Specification

All values are typical at +24°C (+75°F), 12Vdc excitation unless otherwise stated.

Items	Spec.	Unit
Acceleration range	±10	g
Sensitivity ±5%	0.8	mA/g
Bias current ±0.08mA	12	mA
Output range	4 to 20	mA
Frequency response -3db	0-100	Hz
Residual noise, (Broadband Spectral))	10	µA
Shock limit	1000	g
Transverse sensitivity	<3	%
Transverse sensitivity (BFSL)	±1	%FSO
Thermal bias shift (Refer to 12mA)	±0.36	mA
Thermal sensitivity shift, -40 to +85°C, REF. 24°C	±3	%
Power requirement	10 to 18	Vdc
Output impedance	<100	Ω
Output impedance (816-10-LA @500Vdc, Signal to Shield, Shield to Case; 816-10-LB @500Vdc, Signal pin to Shield pin, All pins to Case.)	>200	MΩ
Lighting protection (816-10-LA @50Hz/1min/<5mA Signal/Shield to Case; 816-10-LB @50Hz/1min/<5mA All pins to Case, Signal pin to Shield pin.)	4000	VAC
Withstand voltage (816-10-LB @50Hz/1min/<5mA Signal pin to Shield pin)	1000	VAC
Warm up time	<100	mSEC
Operation temperature	-45 to +85	°C
Protection	IP68	
Case material	Anodized aluminum	
Surface preparation	Sand blast	
Weight (W/O cable)	<560	克

Self-test output: 4±0.08mA。

Accessories

Calibration certificate included.

Part Number	Description	Availability
PM0403	M10x18 socket head cap screws	2pcs included
IN-3062	8 channels data acquisition system	Optional

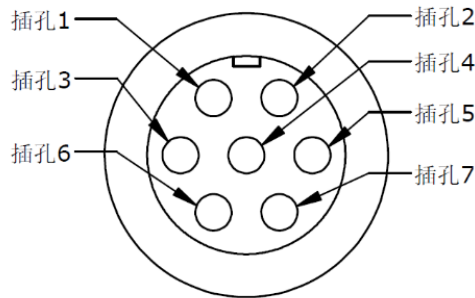
Measurement configuration

Sensor	Connector	Data acquisition	Computer

连接器针脚功能表:

- 插孔1 = 电源+
- 插孔2 = 电源-
- 插孔3 = 自检 (低电平自检)
- 插孔4 = 信号+
- 插孔5 = 信号-
- 插孔6 = 内部屏蔽罩引出
- 插孔7 = 屏蔽

接头前视图



Ordering information

816	-	10	-	1
Model	-	Range	-	Screw/Washer
816	-	2=2g 5=5g 10=10g	-	1=Insulative screw 2=Insulative washer 3=Lock washer 4=Insulative plate

