

CONTACT VIBRATION ANALYSIS AND SOLUTIONS: FASTTRACER (FT)

SEQUOIA: the Best Service Vibration Analysis and Unbalance Solutions

Features

- Low frequency, 3 axis, high resolutions, durable and stable of MEMS accelerometer
- Directly connect to PC via USB / Wifi module
- Several ready made user friendly software suites and drivers available for user defined routines
- Multiple mounting choices




Maximum Acceleration	± 2, 5, 18 g
Frequency Range	0 - 2,500 Hz
Resolution	0.0025 m/s ² (16 bits)
Sensitivity	420 (2 g), 174 (5 g), 57 (18 g) mV/g
Dimension	30 x 55 x 15 mm
Weight	55 g
Power Supply	5 VDC (USB)
Protection Rating	IP67
Shock Resistance	10,000 g
Temperature Range	0 to 70°C

Applications

- Vibration analysis for any industrial equipments
- Vibration analysis and condition report for machine tools
- Balancing for rotating machine
- Operation condition monitoring for reciprocating engine and many others

FastTracer (FT) Software

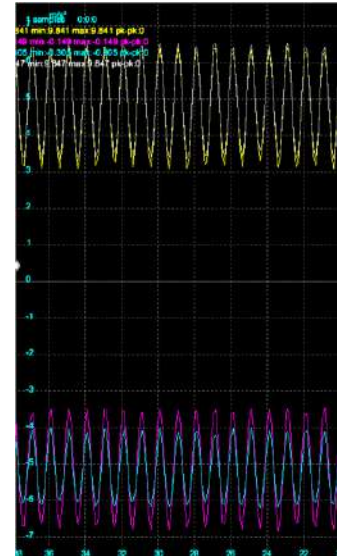
Reciprocating Engine Vibration Analyzer (REVA)

- High temperature application for reciprocating engine
- Provide high temperature cable and special mounting feets and magnetic base
- User defined alarm limit and happen ing reason



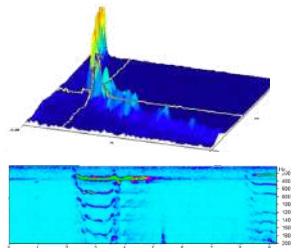
FastTracer Analyzer (FTA)

- User friendly analysis tools for acceleration, velocity and displacement
- Easy and quick use for data store and post processing
- Unlimited and perpetual license with free update



SigVIEW

- Variable and powerful analysis tools 2D, 3D
- Wide range of functions for statistics
- Visual and no code interface



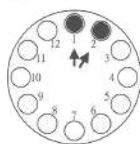
Realtime Intelligent Vibration Analyzer (RIVA)

- Stable and powerful mobile application
- Portable analysis tool for on-site inspection
- Vibration energy and alarm for multiple equipments
- Unlimited and perpetual license



FastTracer Balancer (FTB)

- User friendly analysis tools for acceleration, velocity and displacement
- Easy and quick use for data store and post processing
- Unlimited and perpetual license with free update



SeTAC (ST)

The best monitoring and control system for machine tools

Features

- Low frequency, 3 axis, high resolutions, durable and stable MEMS accelerometer
- Realtime equipments condition alarm and control
- Rapid collision response control < 1 ms
- Multiple orders feature your needs Multiple mounting choices



	Functions	gold	full
--	-----------	------	------

Firmware	Event Log	v	v
	Collision protection	v	v
	Spindle life prediction	v	v
Software	Overload detection, alarm, output		x
	Scenario		v

Hardware	Sensor	v	v
	Interface		v

Commu- nication	Digital outputs (1 - high speed collision 2 - high speed)	x	v
	Configuration	x	v
	Log event	x	v
	Signal (X, Y, Z, Acc vector, Vrms vector)	x	v
	ModBus RTU	v	v
	ModBus TCP		v
	Input monitoring active		v

Applications

- Condition report for machine tools
 - Collision protection
 - Vibration energy (Vrms)
 - Lifetime prediction
 - Log event
 - Multiple scenario

Acceleration upper limit	± 18 g
Bandwidth	0 - 2,500 Hz
Resolution	0.0075 m/s ² (12 bits)
Size	30 x 55.5 x 15 mm
Weight	72 g
Power supply	18 - 36 VDC
Protection level	IP67
Anti-vibration	10,000 g
Temperature range	0 to 70°C

E-Sensor (ES)

The best monitoring, alarm and control system of new generation tools

Features

- Low frequency, triaxial, high resolution, high sensitivity, durable, reliable and stable MEMS accelerometer
- Real-time equipment operation status alarm and control
- Less than 1 ms quick response
- Various fixing methods
- Multiple units in series for full field protection
- IIoT 4.0 (LAN, WiFi, 3G, 4G)
- Touch HMI/PLC

Acceleration upper limit	± 20 g
Bandwidth	0 - 2,000 Hz
Resolution	20 bits, 110 dB
Dimensions	40 x 26 x 10 mm
Weight	40 g
Power	12 - 24 VDC
Protection class	IP67
Temperature range	-10 to 100°C



Applications

- Machine tool status report
- Knife hit protection
- Vibration Energy (Vrms)
- Spindle life calculation
- Event log
- Various scene mode settings
- HMI/PLC more communication possibilities

Kit	Basic	Profile	Pro
Quick Knife Knife Response	✓	✓	✓
ISO 10816 (Vrms)	✓	✓	✓
2 groups of alarm settings	✓	✓	✓
16 groups of scene settings		✓	✓
Vrms Life Calculation		✓	✓
Multiple units in series		✓	✓
Digital I/O		✓	✓
Remote Control		✓	✓
IIoT 4.0		✓	✓
Cloud data storage		✓	✓
FFT			✓
Additional Scenarios			✓
Gateway		X	X



SQD-A Series - Accelerometer

High Accuracy, Stable, Durable Piezo Accelerometer

Features

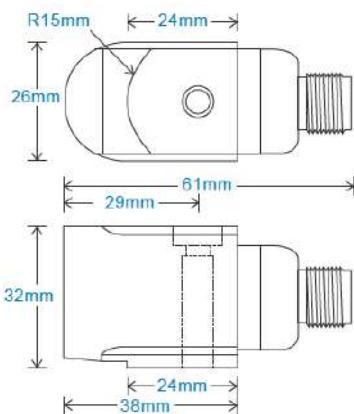
- High durability for a wide range of industrial applications
- M12 industry standard connector

Applications

- Architectural applications
- Pit construction
- Automotive industry
- Paper industry
- Water industry
- Pharmaceutical industry
- Other

Devices

- Machine tool
- Fan
- Motor
- Water pump
- Compressor
- Gearbox
- Other



	Type 1	Type 2
Sensor	Piezoelectric / Shear	Piezoelectric / Shear
Frequency response	10 to 1,000 Hz $\pm 5\%$ (ISO 10816)	1.5 to 10,000 Hz $\pm 5\%$ 0.5 to 12,000 Hz $\pm 10\%$ 0.2 to 15,000 Hz $\pm 3\text{dB}$
Weight	185 g	205 g
Power	15 - 30 VDC	18 - 30 VDC
Protection class	IP67	IP67
Vibration resistance	5,000 g	5,000 g
Temperature range	-25 to 120°C	-55 to 150°C

DAQ Systems

High reliability and synchronization of various physical measurement systems

Features

- Stable, High Accuracy, Lightweight, Easy to Use
- High resolution, up to 52.7 kHz sample rate
- Multiple modules can be synchronized

used with a variety of SIGVIEW tools to provide comprehensive statistics and analysis functions



RPM



Force



Acceleration



Torque



Impact



Pressure



Sound



Strain



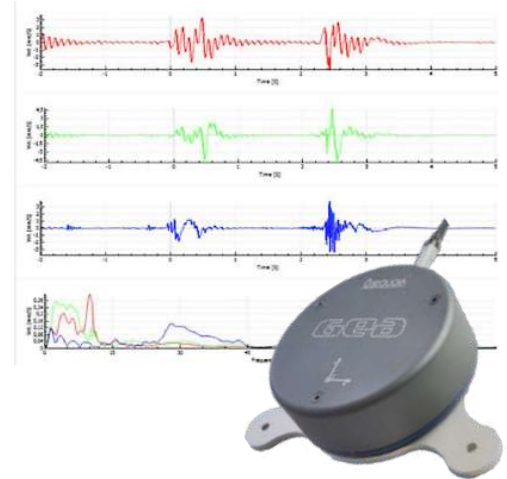
		SQD-41	SQD-41S
Analog Input	Number of simultaneous channels	4	4
	Resolution	24 bits	24 bits
	High pass filter	0.5 Hz	0.5 Hz
	Analog-to-digital conversion	v	v
	Current	4 mA	4 mA
	Maximum sample rate	52.7 kHz	52.7 kHz
	Tachometer input	1	1
Other	Analog Output		v
	Multi-module synchronization		v
	Other cable	BNC	BNC

GEA II System (GS)

Best vibration measurement and civil engineering solutions

Features

- Ultra low frequency, triaxial, durable, high resolution, high-speed, high-stability MEMS-Piezo hybrid Accelerator
- Complete and extensive application software
- Up to 16 units can be synchronized for modal analysis
- Upload data and alarm via 3G, 4G
- Flexible plan options



Applications

- Health monitoring of large structures
- Tunnel construction monitoring
- Mining blast monitoring
- Construction site monitoring
- Historical heritage protection
- Living quality monitoring
- Traffic vibration

Software Application

- GEA Lab
 - Structural damage analysis
 - Comfort assessment
 - Monitoring and scheduling
- GEA Report
 - 1/3 octave analysis
 - Diagnostic report

Acceleration upper limit	± 8 g
Bandwidth	0 - 100 or 300 Hz
Noise Density	1 µg/(Hz) – 2 (1 Hz)
Resolution	24 bits, 120 dB
Dimensions	Ø 110 x h 40 mm
Weight	500 g
Power	5 VDC (USB)
Protection class	IP68
Vibration resistance	3,000 g
Temperature range	-10 to 75°C

最佳接觸式振動分析儀及解決方案： FASTTRACER (FT)

SEQUOIA: 最佳振動分析與轉動設備動平衡解決方案

產品特色

- 低頻、三軸、高解析度、耐用、可靠穩定的 MEMS 加速規
- USB、Wifi 直接連接電腦
- 數種簡易操作的完整軟體，提供
- 自訂的定期巡檢計畫
- 多種固定方式




加速度量測上限	± 2, 5, 18 g
頻寬	0 - 2,500 Hz
解析度	0.0025 m/s ² (16 bits)
靈敏度	420 (2 g), 174 (5 g), 57 (18 g) mV/g
尺寸	30 x 55 x 15 mm
重量	55 g
電源	5 VDC (USB)
保護等級	IP67
抗振	10,000 g
溫度範圍	0 to 70°C

應用

- 工業設備振動分析
- 工具機振動分析及狀態報告
- 轉動設備動平衡
- 往復式引擎運作狀態 更多其他應用



FastTracer (FT) 軟體

Reciprocating Engine Vibration Analyzer (REVA)

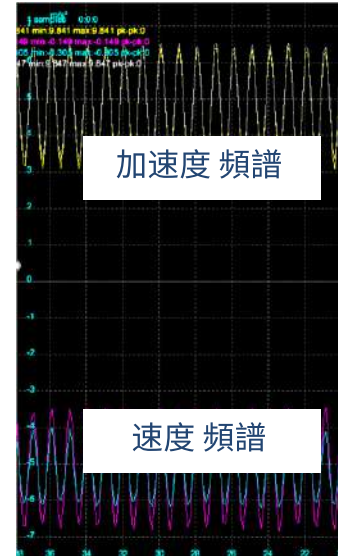
- 高溫往復式引擎應用
- 提供耐高溫傳輸線、特殊的FT 安裝腳與磁座
- 可設定報警界值與報警原因
- 永久、免費更新且無綁定電腦的軟體授權



往復式引擎

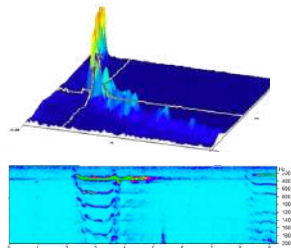
FastTracer Analyzer (FTA)

- 簡單方便的加速度、速度、位移與 Vrms 分析工具
- 方便資料儲存與後處理
- 永久、免費更新且無綁定電腦的軟體授權



SigVIEW

- 多樣的訊號分析工具 廣泛的統計學功能
- 視覺化操作界面
- 永久軟體授權



2、3D 時頻圖

Realtime Intelligent Vibration Analyzer (RIVA)

- 穩定且強大的手 App
- 易攜帶的巡檢分析工具
- 多種設備振動能量計算 (Vrms)與報警
- 永久、免費更新且無綁定電腦的軟體授權



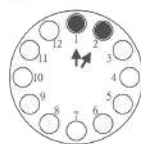
RIVA 介面

FastTracer Balancer (FTB)

- 快速簡易的轉動設備或元件之動平衡校正工具
- 永久、免費更新且無綁定電腦的軟體授權



動平衡校正



SeTAC (ST)

最佳工具機的監測與控制系統

產品特色

- 低頻、三軸、高解析度、耐用、可靠穩定的 MEMS 加速規
- 實時設備運作狀態報警與控制
- 小於 1 ms 的撞刀反應速度
- 多樣的方案選擇
- 多種固定方式



x - 部分功能 v - 完整功能	產品功能	gold	full
----------------------	------	------	------

韌體 軟體	事件紀錄	v	v
	撞刀保護	v	v
	主軸壽命演算	v	v
	超載偵測, 報警, 輸出		x
	情境模式		v

硬體	感測器	v	v
	通訊介面		v

通訊	數位輸出 (1 超高速-撞刀保護、2 高速)	x	v
	使用者設定	x	v
	事件紀錄	x	v
	訊號(X, Y, Z, 加速度向量, Vrms 向量)	x	v
	ModBus RTU	v	v
	ModBus TCP		v
	啟動開關		v

應用

- 工具機狀態報告
 - 撞刀保護
 - 振動能量 (Vrms)
 - 主軸壽命演算
 - 事件紀錄
 - 多種情景模式設定

加速度量測上限	± 18 g
頻寬	0 - 2,500 Hz
解析度	0.0075 m/s ² (12 bits)
尺寸	30 x 55.5 x 15 mm
重量	72 g
電源	18 - 36 VDC
保護等級	IP67
抗振	10,000 g
溫度範圍	0 to 70°C

E-Sensor (ES)

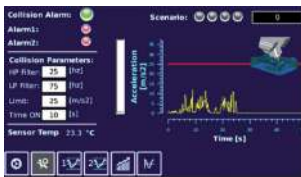
新一代最佳工具機的監測、報警與控制系統

產品特色

- 低頻、三軸、高解析度、高靈敏度、耐用、可靠、穩定的 MEMS 加速規
- 實時設備運作狀態報警與控制
- 小於 1 ms 的撞刀快速反應
- 多種固定方式
- 多台串聯全場保護
- IIoT 4.0 (LAN、WiFi、3G、4G)
- 觸摸式 HMI/PLC



加速度量測上限	± 20 g
頻寬	0 - 2,000 Hz
解析度	20 bits, 110 dB
尺寸	40 x 26 x 10 mm
重量	40 g
電源	12 - 24 VDC
保護等級	IP67
溫度範圍	-10 to 100°C



應用

- 工具機狀態報告
 - 撞刀保護
 - 振動能量 (Vrms)
 - 主軸壽命演算
 - 事件紀錄
 - 多種情景模式設定
 - HMI/ PLC 更多通訊可能

套件	基本	情景模式	專業版
快速撞刀反應	✓	✓	✓
ISO 10816 (Vrms)	✓	✓	✓
2 組報警設定	✓	✓	✓
16 組情景設定		✓	✓
Vrms 壽命演算		✓	✓
多台串接通訊		✓	✓
數位 I/O		✓	✓
遠端控制		✓	✓
IoT 4.0		✓	✓
雲端資料儲存		✓	✓
FFT			✓
額外情景設定			✓
Gateway (RTU to TCP)		X	X



SQD-A Series - Accelerometer

高精準度、穩定、耐用 Piezo 加速度感測器

產品特色

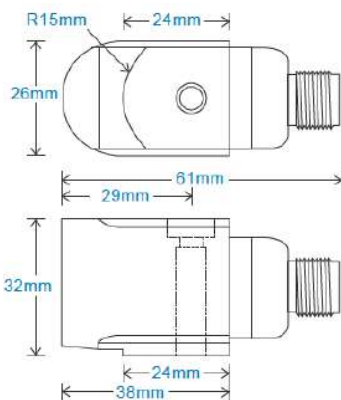
- 高耐用性適用於各式工業應用
- M12 工業標準接頭

產業應用

- 建築應用
- 礦坑施工
- 汽車產業
- 造紙產業
- 水利產業
- 製藥業
- 其他

設備

- 工具機 風扇
- 馬達
- 水泵
- 壓縮機
- 齒輪箱
- 其他



	Type 1	Type 2
感應器	Piezoelectric / Shear	Piezoelectric / Shear
頻率響應	10 to 1,000 Hz $\pm 5\%$ (ISO 10816)	1.5 to 10,000 Hz $\pm 5\%$ 0.5 to 12,000 Hz $\pm 10\%$ 0.2 to 15,000 Hz $\pm 3\text{dB}$
重量	185 g	205 g
電源	15 - 30 VDC	18 - 30 VDC
保護等級	IP67	IP67
抗振	5,000 g	5,000 g
溫度範圍	-25 to 120°C	-55 to 150°C

DAQ Systems

高可靠度、同步的多樣物理量測系統

產品特色

- 穩定、高精準度、輕巧、簡易使用
- 高解析度、高達 52.7 kHz 採樣率
- 可同步多種模組

可搭配多樣化訊號分析工具 SIGVIEW，提供完善的統計與分析功能



- 轉速測量
- 受力測量
- 加速度量測
- 扭矩測量
- 敲擊測試
- 壓力測量
- 聲音測量
- 應變測量

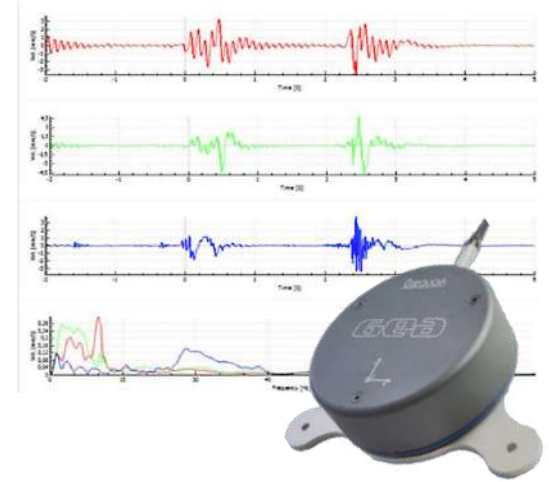
		SQD-41	SQD-41S
類 比 輸 入	同步通道數	4	4
	解析度	24 bits	24 bits
	高通濾波	0.5 Hz	0.5 Hz
	類比數位轉換	v	v
	電流	4 mA	4 mA
	最高採樣率	52.7 kHz	52.7 kHz
	轉速計輸入	1	1
其 他	類比輸出		v
	多模組同步		v
	連接線	BNC	BNC

GEA II System (GS)

最佳振動量測與土木工程解決方案

產品特色

- 超低頻、三軸、耐用、高解析度、高穩定性 MEMS-Piezo Hybrid 加速規
- 完整及廣泛的應用軟體
- 最多 16 台可同步助於模態分析
- 透過 3G, 4G 上傳數據及報警
- 彈性的方案選擇



加速度量測上限	± 8 g
頻寬	0 - 100 or 300 Hz
噪聲密度	1 µg/(Hz) - 2 (1 Hz)
解析度	24 bits, 120 dB
尺寸	Ø 110 x h 40 mm
重量	500 g
電源	5 VDC (USB)
保護等級	IP68
抗振	3,000 g
溫度範圍	-10 to 75°C

應用

- 大型結構之健康監測
- 隧道施工監測
- 採礦爆破監測
- 施工工地監測
- 歷史遺產保護
- 居住品質監測
- 交通振動

應用軟體

- GEA Lab
 - 結構損害分析
 - 舒適度評估
 - 監測及排程
- GEA Report
 - 1/3 倍頻程分析
 - 診斷報告