

SENSONICS

Looking for the Ultimate
Machinery Protection System?

...**Sentry G3** ticks all the right boxes



What type of system would you prefer to protect your critical rotating plant?

- I want a fully programmable system
- I want one module type for all measurements
- I want a sensor interface that's totally flexible
- I want a system that utilises individual processors per channel which are independent from other hardware
- I want a colour LCD display providing alarm history plus an FFT display of the dynamic channel
- I want an API 670 compliant system

Choose the system with the best functions and features...



Sentry G3 from Sonsonics

The high-performance sensor conditioning and monitoring system

The need to protect your critical plant and equipment

Continuous protection and monitoring is an essential requirement for critical rotating plant in many areas of industry. Whether you are generating power, pumping essential fluids or driving process equipment – it's vital to monitor the machine dynamic behaviour through the measurement of vibration, speed, expansion and temperature, in addition to other parameters.

For over 40 years Sonsonics has been at the forefront in developing the most sophisticated condition monitoring systems and products which help industry to monitor and protect critical rotating plant.

A proven track record

From its Hertfordshire, UK base Sonsonics is proud of its reputation as a leading manufacturer of condition monitoring systems. This is underlined by the ongoing success of the innovative **Sentry G3** system which represents the third generation of the Sentry concept – evolved from 40 years of real world applications.

The **Sentry G3** Machinery Protection Concept is a rack mounted, high performance sensor conditioning and monitoring system. It provides a universal platform for the interfacing of various sensor types to meet with the demanding application of rotating machine protection.

Take a closer look at the features and benefits...



Frequency Analysis
FFT display of vibration waveforms

LCD Display
Intuitive bar graph and lamp alarm display

Alarm Historian
Captures and time stamps all events

Power Supply
Fully Redundant wide ranging solid state design



Buffered Outputs
All dynamic sensor input signals are available at the front panel

USB Interface
Utilised for uploading measurement algorithm code and settings



G3 4-channel Protection Module



Comms Module



Voting Module



PSU Module

Features and Benefits

Sentry G3 is designed so that each plug-in module provides up to four measurement channels. These can be independently programmed to provide continuous monitoring and protection facilities across a broad spectrum of sensor regimes (including vibration, expansion, temperature, speed and position).

Independent Alarms - High Integrity

Utilising the latest DSP technology, once a channel is configured and running, the resulting alarm relay and analogue output facilities remain independent from the other module functionality. This results in a scalable, high integrity configuration suitable for IEC61508 applications.

Immediate Viewing - Easy Access

Each module is provided with an intuitive colour LCD display and menu drive facility to provide immediate viewing access to the machine parameters. Several modes of display are available including bar graph, FFT and an alarm historian.

Power Supply
Universal AC input or direct +24 volt DC

Comms Interface
Modbus RS485 and Ethernet Interfaces for connection to plant systems

Sensor Inputs
Fully configurable interface with +24V, -24V, +12V and IEPE options

Alarm Relays
Up to 3 relays per channel with voting logic

Analog Outputs
Fully configurable 4-20mA and voltage outputs per channel

19" Racking System
Industry Standard 3U rack catering for up to 24 channels and 2 PSU's



Machine Measurement Modes

- Absolute and Relative Vibration
- Shaft and Valve Position
- Speed, Phase and Reverse Rotation
- Differential and Casing Expansion
- Temperature and Process

Turbine Specialist Measurement Modes

- Shaft Eccentricity
- Differential Ramp Expansion
- Rotor / Stator Air Gap

Flexible Configuration

- Universal Module for all Measurements
- Field Upgradeable
- Hot Swappable Modules
- LPF, HPF, Tracking and Notch Filters
- Programmable Warning and Danger Alarms
- Programmable Transducer Supply
- Dual Redundant Power Supply
- Gateway Communication Module
- USB Programmable

Overspeed Protection System

- High Integrity 2oo3 Voting
- IEC61508 SIL-3
- Individual Channel Trip Testing
- Signal Injection Capability
- Reaction time <10ms
- Dual Redundant Power Supplies
- Fully Independent Modules



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Choose the best Protection System for your Critical Rotating Plant



Sentry G3 the high-performance sensor conditioning and monitoring system

Applications

- Steam Turbines
- Industrial Gas Turbines
- Hydro Electric Machines
- Electric Motors and Generators
- Centrifugal Pumps and Compressors
- Axial and Reciprocating Compressors
- Horizontal and Vertical Pumps
- Turboexpanders
- Fans and Blowers
- Centrifuges



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