VIGILANT

Powered by SDT

Online Condition Monitoring

Be Vigilant over your critical assets

- Ultrasound
- Vibration
- Temperature
- Tachometer
- Process

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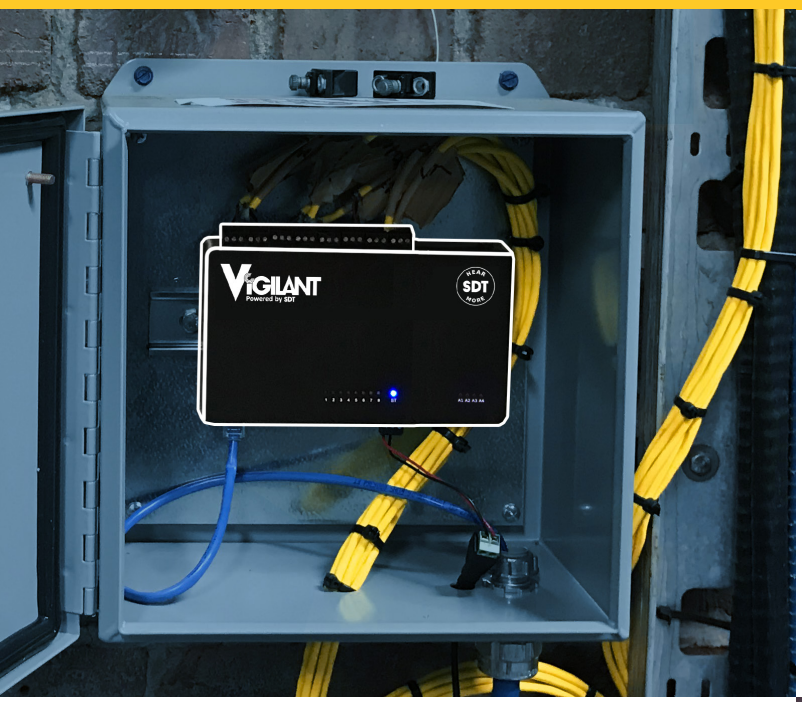
Online Condition Monitoring

A turn-key condition monitoring solution combining the versatility of ultrasound, the analytics of vibration, standard communication protocols and an embedded trending and analysis software.



Configure Vigilant to any Critical Asset

Vigilant is a flexible data collection pod. Input any combo of eight ultrasound and vibration sensors and receive continuous feedback from your assets.

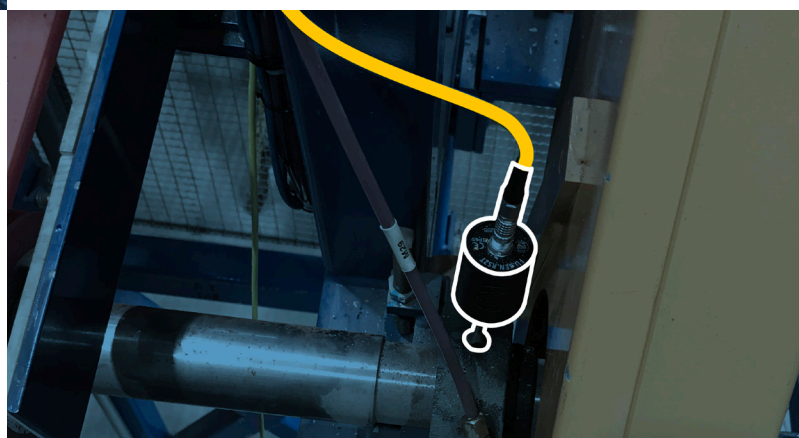
4 channels for Temperature, Tach and Pressure create an all-in-one solution for critical and guarded assets.

Designed for CONMONSense

Vigilant accepts data from commonly available sensors including the CONMONSense Sensors from SDT, designed to provide repeatability in any industrial environment.

Vigilant Highlights:

- 8 channels (Ultrasound or Vibration)
- 4 channels (Temp/Tach/Process)
- Embedded data management software
- Trends/Spectrum/Waveform/Waterfall
- Open communications protocol
- Static and Dynamic data



Embedded Data Management Software

View the status of any asset from the security and convenience of your favourite web browser.

Configuration

Vigilant includes a web interface to configure all the system options and monitoring features available on the units.

Dashboard

The Dashboard visualizes the real time measurements performed by the Vigilant. It also shows the historical data stored in the unit.

Alarm Log

From any of the desktops the users have access to the "Alarm Log" that shows all the events or anomalies detected in the monitored machine in real-time.

Widgets

Widgets for static trends, dynamic time waveform plots, as well as spectral analysis.

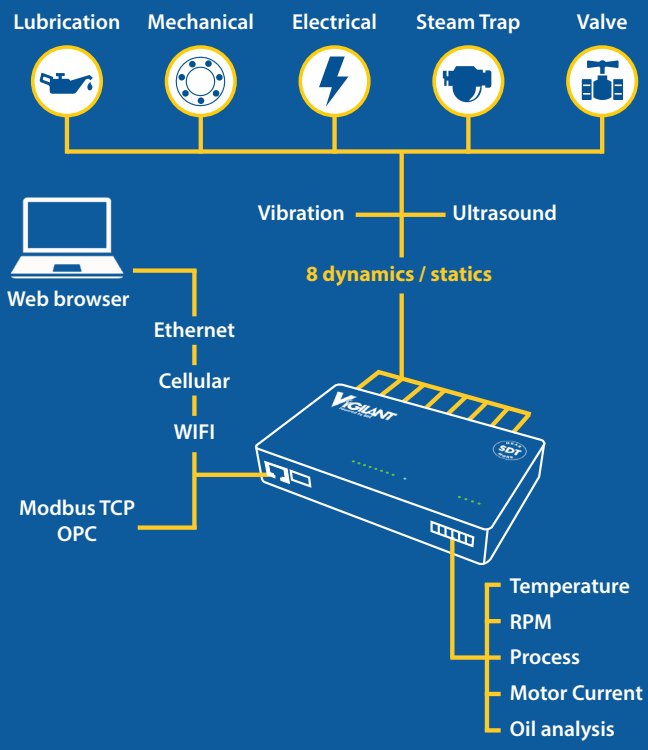
Layouts

Size, position, and arrange widgets to create custom desktop layouts.

Vigilant manages both Static and Dynamic ultrasound data. This creates an opportunity to establish long-term trending, analysis, and diagnosis at the earliest point in the failure curve.

Applications

- Early detection of rolling element bearing faults (especially in slow speed applications);
- Status of couplings on critical assets in limited access locations;
- Monitor guarded assets such as robotics or CNC machine centres;
- Lubrication status of roller bearings;
- Valves deemed critical to a process;
- Detection of partial discharge in electrical assets such as MCC panels and switchgear cabinets;
- Detection of friction or impacting in linear motion applications;
- Detection of turbulence produced by cavitation in pumps and valves;
- Detection of hydro-cyclones used in mining processes.



Vigilant Hardware Versions

Vigilant Permanent

- 8 high-speed (Dynamic) multipurpose analog inputs;
- 4 channels (Temp/Tach/Process);
- ICP power source available on all dynamic inputs;
- Ethernet TCP/IP communications;
- Powered at +24 Vdc.

Vigilant Mobility

- Same function as Vigilant Permanent;
- Packaged in rugged, custom waterproof case;
- Designed to travel to off-site assets;
- Install on assets in alarm to closely monitor until planned shutdown.

Technical Specifications

General	
Function	Permanent acquisition device
Main dynamic inputs	8 channels (ultrasound & vibration)
Auxiliary static inputs	4 channels (static & tachometers)
USB ports	1 Host
Analog channels indicator	12x Red/Green LEDs
Power supply	20-26 Vdc, 24 Vdc nominal (220 V AC with the mobility case)
Power consumption	<12W
System features	
Operating system	Dedicated webserver application
CPU	ARM Cortex™-A9 Quad Core (NVIDIA® Tegra™ 3)
Storage capacity	4 GB
Network interface	IEEE1588 Ethernet 10/100 (WIFI/ Cellular using an optional module)
Communication	MODBUS TCP & OPC UA
Mechanical features	
Mounting	Standard 35 mm DIN rail (plug&play mobility case in option)
Sensor interface	Free-end cable (back panel + provided connectors of type M8 for the mobility case)
Size	162.2x95x27 mm (out of mobility case)
Weight	0.42Kg
Operating temperature range	-30C° to +44.5C°, non-condensing
Humidity	95% RH

Signal acquisition: Main inputs	
Sampling rate	512 Hz to 51.200 Hz
DC range	± 24 V
AC range	24 Vpp
IEPE Sensors drive current	5.5 mA @20V
ADC resolution	16 bits
Input configuration mode	Dynamic, Static, Digital, Pulse train
Harmonic distortion	-70 dB
Accuracy	1 %
Dynamic range	110 dB
Gain	1 to 128
Points type	Dynamic, Static, Tachometer
Signal acquisition: Auxiliary inputs	
Sampling rate	Up to 200 Hz
DC range	± 24 V
ADC resolution	16 bits
Power output	+24 V
Input configuration modes	Static, Digital, Pulse Train (A1 and A2 only)
Accuracy	1%
Gain	1 to 32
Points type	Static, Tachometer
Signal processing	
Spectral lines	Up to 12800
Time waveform samples	128 up to 262.016
Windows type	Hann, Hamming, Blackman, Rectangular
Processing modes	Waveform, Spectrum & Waveform, Demodulation, Long Waveform, Demodulation, Long-Waveform
Available filters	Butterworth, Bessel, Chebyshev

SDT Mission

SDT provides ultrasound solutions that help our customers gain a better understanding about the health of their factory. We help them predict failures, control energy costs, and improve product quality while contributing to the overall reliability of their assets.

Your SDT Certified Partner

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