DSP Compact WRM
Vibration Condition System

Semapi Instruments

The DSP Compact Wireless Remote Monitor system is an eight-channel unit used to analyze and control machinery conditions caused by vibrations and other variables. It is a 24/7 controlling device that can communicate via a 802.11b/g industrial wireless network. The measurements taken by means of its eight channels are: Acceleration, Velocity, Displacement and Envelope.

It also has two AC channels and two channels dedicated to measuring temperature or 4-20mA. Data can be stored in the unit memory or transmitted to the controlled machine analysis and follow-up software, including an alarm system, which activates the digital alerts or relays, besides providing continuous warnings on the controlling PC screen.

It is ideal for:

Critical and semi-critical machinery in the plant.
Remote monitoring via Internet and remote failure analysis.
Temporal out-of-balance detection and machine conditions in production processes.
Recurrent failure follow-up; suitable for solving problems.
Bearing failure, cavitations and lubricant film performance follow-up detection. Low-maintenance machinery due to difficult access. Unit suitable for long-term data collection periods without connection, recorder or black box type.

Hardware charecteristics

8 accelerometer channels
2 AC channels & 2 DC channels
8 digital inputs & 1 RPM sensor
Supports WEP, WPA, WPA2/PSK security
Waveform, spectrum, and overall measurement
Up-to 32 kHz bandwidth
IEEE 802.11 b/g (Wi-Fi)
RJ45 network connector
Up-to 25,600 resolution lines
Robuust, compact and easy to install

Benefits:

Quick implementation and startup, which reduces installation costs. Additional system to the predictive monitoring of the machine condition. 24/7 reliable and maintenance-free monitoring system. Easy relocation and reinstallation of the whole set Easy Wi-Fi connection allows savings in network installations. Unit suitable for moving and different access machinery. Expandable system for condition monitoring coverage. The installed Wi-Fi infrastructure additional value should be deducted. Hardware and software adaptable to machinery and/or equipment production control system. Operation completely suitable for machines in motion.

Overview:

Quick implementation and startup, reduced installation costs. 24/7 reliable and maintenance-free monitoring system. Easy relocation and reinstallation of the whole set. Easy Wi-Fi connection allows savings in network installations. Unit suitable for moving and different access machinery. Expandable system for condition monitoring coverage. The installed Wi-Fi infrastructure additional value should be deducted. Hardware and software adaptable to machinery and/or equipment production control system. Operation completely suitable for machines in motion.

Semapi Instruments
A smart choice for predictive maintenance
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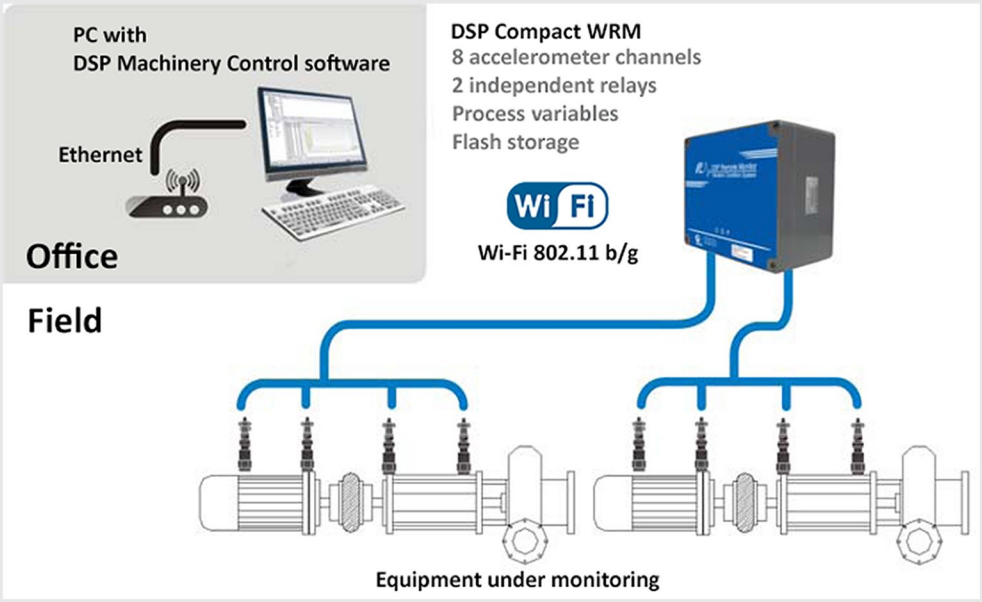
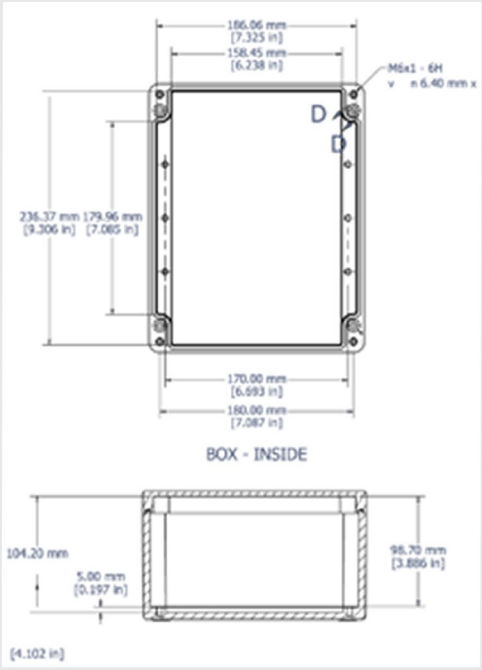
System Components

Windows OS PC (not included)
DSP Remote Monitor hardware
ICP vibration sensors



Unit Size



Specifications

Data acquisition and processing:
Analog-to-digital converter (ADC)
16-bits of simultaneous measurement in channels 1-6

Sampling rate:
Effective rate: 64 Hz to 102.4 kHz
Frequency response: 0.5 Hz to 32 kHz
Data block size: 256 up-to 32,768.
Spectral lines: 400 up-to 25,600
Windows: Hanning or Flat Top

Inputs
8 CA channels
Input: 10 Vpk-pk, ICP power ± 5 V range
4 DC channels Range:
from ± 5 DCV, 0-10 fixed V range or 4-20 mA input with a ballast resistor function (configurable)
1Trigger, RPM Tachometer
Required signal: TTL or 5-24 V pulse,
6 to 600 000 pulses per minute (0.1 - 10,000 Hz)

Output:
RS485, RS232.
Relay system: 2 independent NA-NC relays. Software-configured to activate by means of an alarm system and channel, sensor and cable condition verification.
Power: 12 DCV maximum, 10 mA maximum.

Measurements
CA channels:
acceleration, velocity, displacement and envelope. Orbital graphic channels
DC channels: DC generic, ± 5 V, 4 to 20 mA and temperature.

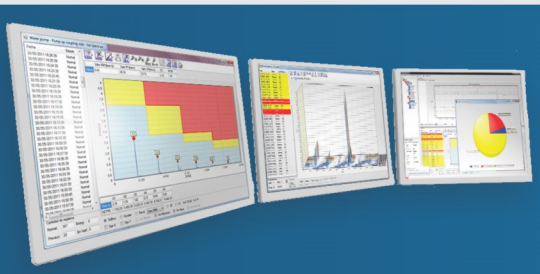
Data acquisition media
Programmable wake-up with internal clock programmable measurements by:
second, minute, hour, day, month.
PLC activation.
Continuous mode and simultaneous channels.

Mechanics and environment
Protection: IP 67, NEMA 4X
Material: fiberglass reinforced polycarbonate
Approximate weight (w/battery): 1.8 kg
Operating temperature: -10 to +60 °C
Input cable gland: 8 metallic reinforced parts.
95% non-condensing humidity.

Certifications Wireless
FCC: Part 15, Class B - ETSI: EN 300 328 v1.6.1 (2004-11). EN 301 489-17 V1.2.1 (2002-11)

Dangerous area
Class I, Division 2, Groups A, B, C, D with external power. European Community
CE and RoHS.

Communication
Network: Ethernet 802.11b/g Wi-Fi
Routing: static IP or DHCP
Encryption: WEP, WPA, WPA2/PSK
RJ45 LAN connector, USB



DSP Machinery Control Software

Software is designed for the organization and accurately determining the status of each measurement. It has a lot of diagnostic tools that ensure detection of mechanical and electrical failures. The entire product line of meters, field analyzers and monitoring systems are fully compatible with this software, allowing in a single database to manage all the Measurements.

Compatible equipment

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