Online System - DSP Remote Monitor
DSP Compact WRM

The DSP Compact WRM 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 registration periods without connection, recorder or black box type.

Hardware Characteristics

Eight accelerometer channels.
Two AC channels.
Two DC channels.
Eight digital inputs.
One tachometer sensor input.
Supports WEP, WPA or WPA2/PSK security.
Spectrum, waveform and overall measurement.
Up to 32 kHz bandwidth.
IEEE 802.11b/g (Wi-Fi)
RJ45 network connector
Up to 25,600 resolution lines
Uses sensors that comply with industrial standards. Simultaneous vibration measurements.
4 envelope filters.
Robust, compact and easy to mount cabinet.

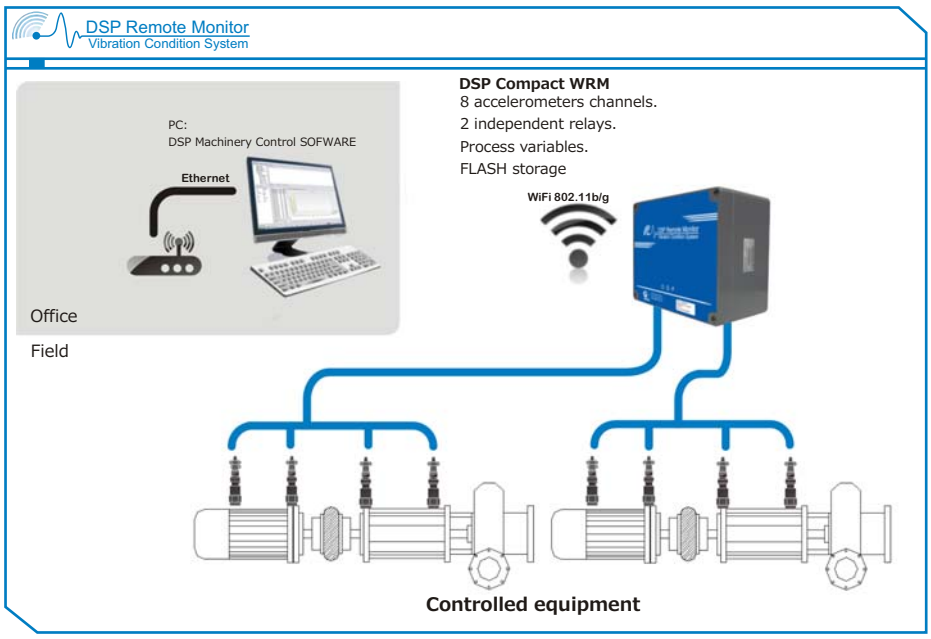
Benefits
Quick implementation and startup, which reduces installation costs. Additional system to the predictive monitoring of the machine condition. 24/7 reliable and maintenance–free monitoring system. Easy relocation and reinstallation of the whole set.
Easy Wi-Fi connection allows savings in network installations.
Unit suitable for moving and difficult 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:
The multiplicity of channels is simply done and optimized by the unit.
Each monitoring module has 4-8 accelerometer channels, plus the auxiliary inputs for additional process variables and RPM registration.
The system can control in one application up to 200 different channels, which allows to process between these points more than 1,200 measurements simultaneously, using the same analysis software and a terminal.
The channels have relay outputs to activate instant alerts if the thresholds configured in the software are exceeded.
The point programmed measurements can be scalar or spectral; variables are configurable in each measurement point and the characteristics of each measurement are extremely flexible.

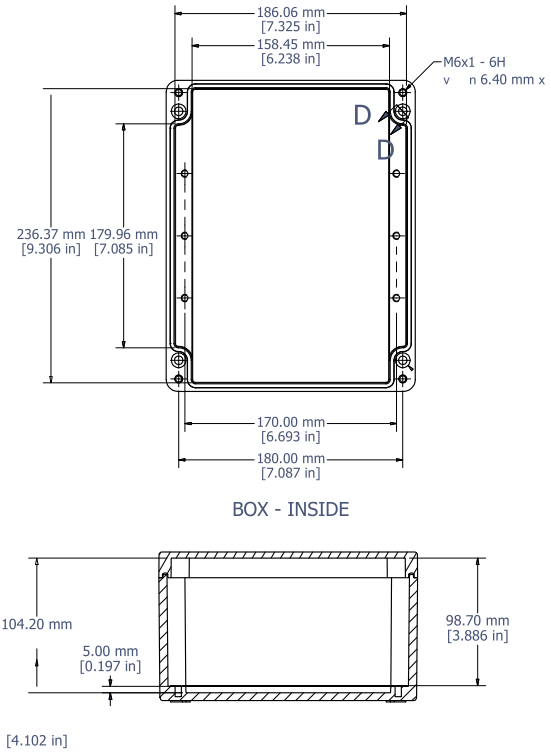
The configured machine point measurement routines can be programmed as automatic follow-up routines with different periods of times between the measurement and the measurement registration.
The monitoring system is carried out under the DSP Machinery Control software configuration and supervision, which will be responsible for defining the online monitoring system architecture and data follow-up.

System Components

Windows OS PC (not included).
Hardware DSP Remote monitor.
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 length
256, 512, 1.024, 2.048, 4.096, 8.192, 16.384, 32.768.
Spectral lines: 400 up to 25 600
Windows: Hanning or Flat Top

Relay system:
2 (two) independent NA-NC relays.
Software-configured to activate by means of an alarm system and channel, sensor and cable condition verification.

Inputs
Ten (10) CA channels
Input: 10 V peak-to-peak, ICP power
± 5 V range
Two (2) DC channels
Range: from ± 5 DCV, 0-10 fixed V range or 4 at 20 mA input with a ballast resistor function (configurable)
One (1) Trigger, RPM Tachometer
Required signal: TTL or - 5-24 V pulse, from 6 to 600 000 pulses per minute (0.1 to 10 000 Hz)
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) ·
(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
Serial RS232
USB

File #E65324
NEMA 4, 4X

ISO 2954 3
ISO 10816
ISO 1940

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