CAMPBELL SCIENTIFIC®
WHEN MEASUREMENTS MATTER

Vibrating Wire
Spectral Analysis Technology

VSPECT
The only solution for vibrating-wire measurements

VSPECT POWERED

- Eliminate noise spikes, false alarms
- Patented spectral analysis
- Have confidence in your measurements



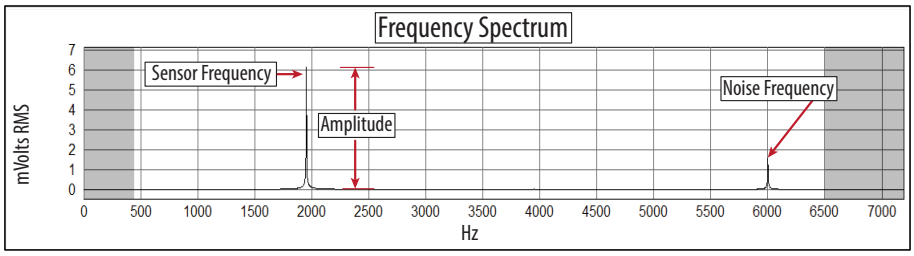
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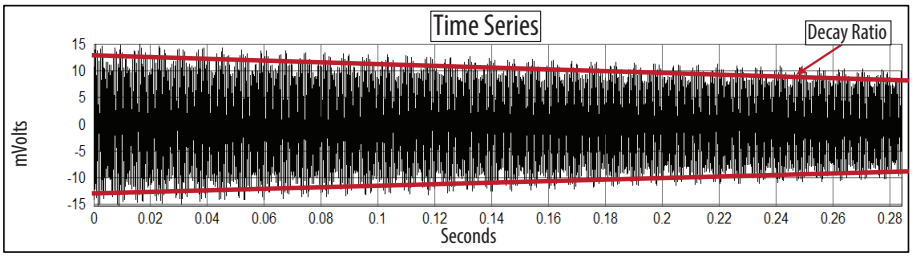
Spectral Analysis Technology

So..... What is VSPECT POWERED

VSPECT[a] is an innovative, patented technology that delivers the best measurement for vibrating wire sensors. VSPECT observes the incoming sensor signal, performs a Fourier transform and spectral analysis (transforming the Time Series into individual sinusoidal components in the Frequency Spectrum). The frequency is determined by identifying the largest signal in the acceptable range and disregarding unwanted noise.



VSPECT technology determines the sensor frequency from the Frequency Spectrum while ignoring noise signals.

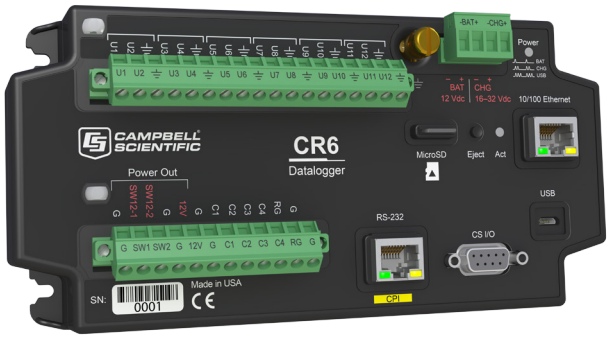


Traditional vibrating-wire readers determine the sensor frequency from the Time Series where signal and noise can't be distinguished.

VSPECT Outputs

- **Sensor Frequency** (frequency of peak response)
- **Amplitude** (signal strength)
- **Signal-to-Noise Ratio** (measurement quality)
- **Noise Frequency** (largest observed noise)
- **Decay Ratio** (signal attenuation)
- **Thermistor, if present** (Ohms or temperature)

CR6 Measurement and Control Vibrating-Wire Datalogger



The CR6 measurement and control datalogger revolutionizes data acquisition systems. It is a smaller, faster, lighter, and more powerful than our previous systems with 24-bit resolution and VSPECT vibrating-wire analysis. The CR6 has what it takes to be the core of any system.

Benefits and Features

- Onboard VSPECT vibrating wire measurements
- Supports dynamic vibrating wire measurements with CDM-VW300 series
- Cost effective
- U-terminal configurable to what you need: analog or digital, input or output
- Integrated charge regulator
- Ethernet 10/100
- MicroSD card slot
- Removable terminal blocks
- Multiplexer expandable
- CRBasic Programmable
- Wi-Fi and RF options coming soon (2015)

[a]*The VSPECT technology is protected under U.S. Patent No. 7,779,690.*

CRVW3 3-Channel Vibrating Wire Datalogger

The CRVW3 is a self-contained, low cost 3-channel VSPECT vibrating-wire datalogger. It is designed to be an independent datalogger, or a reliable component in a larger data acquisition system. Arriving field ready from the factory with power, communications, and an enclosure, the CRVW3 is ready for your monitoring needs.



Benefits and Features

- Complete data acquisition system in a single product
- 3-channel vibrating wire datalogger
- Wireless routing communications with integrated radio options
- Charge regulator for easy solar panel connection
- Enclosure rated to IP66
- Software configurable; no programming required
- Rechargeable and alkaline battery options
- PakBus router/radio repeater capabilities
- Compatible with current Campbell Scientific datalogger networks

CDM-VW305 8-Channel Dynamic Vibrating-Wire Interface



The CDM-VW305 is an 8-channel VSPECT vibrating wire module that allows high speed simultaneous vibrating wire measurements with traditional vibrating wire gages. Several CDM-VW305 modules can be connected to a single CR6 datalogger for a large channel count system; modules can be strategically located near sensors reducing cabling and installation costs without compromising measurement quality. Also available is a 2-channel model (CDM-VW300). U.S. Patent No. 8,671,758.

Benefits and Features

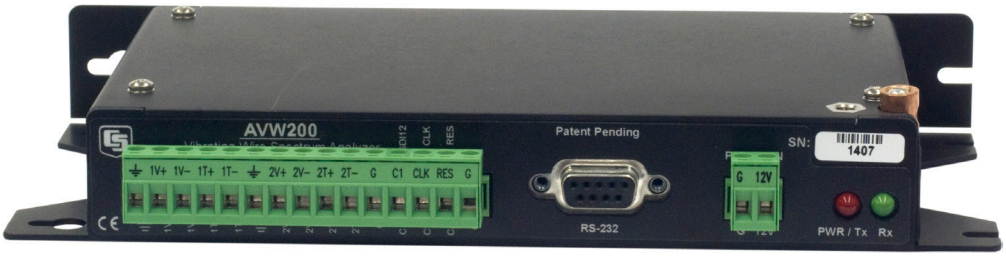
- Revolutionary VSPECT dynamic vibrating wire measurements
- 8-channels with 1 to 333 Hz measurement speed
- Simultaneous measurements
- Use traditional vibrating wire sensors
- Replace eight sensor cables with a single CAT5e cable
- Retrofit existing installations with dynamic capabilities

AVW200-Series Vibrating Wire Interfaces

The AVW200-series interfaces are the proven standard for vibrating measurements with over 10,000 installations worldwide. They allow traditional dataloggers (CR800, CR850, CR1000, and CR3000) to use the VSPECT technology for the best vibrating wire measurement possible since 2007.

Benefits and Features

- 2 channels for static vibrating measurements
- Multiplexer expandable channels
- Patented VSPECT technology
- Wireless communication options



Comparison Table

Model	Solutions	USB Configuration	Ethernet	Expandable Memory	Wireless Communications	Channel Count	Multiplexer Capable	Static VW	Dynamic VW	Power Input
CR6	Fully functional datalogger with onboard vibrating-wire measurements	✓	✓	✓	Wi-Fi and radio options available soon	12 universal	✓	✓	with CDM-VW300 Series	12 to 32 Vdc
CRVW	3-channel stand-alone vibrating-wire datalogger	✓			Radio options	3 vibrating wire		✓		12 to 28 Vdc
CDM-VW300 Series	Dynamic vibrating-wire analyzer	✓				2 or 8 vibrating wire (depends on the model)	Other CDMs	✓	✓	9.6 to 32 Vdc
AVW200 Series	Vibrating-wire analyzer				Radio options	2 vibrating wire	✓	✓		12 Vdc

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