



**SHINKAWA**  
OF AMERICA

Extend the life of  
**your rotating machinery**

PRODUCT CATALOG 2019



**Industrial Vibration Monitoring Solutions:**  
for machinery health and condition monitoring of assets

PRODUCT CATEGORIES:

### The General Protection Series

Machinery Protection for Balance of Plant (BOP)

### The API-670 Protection Series

Machinery Protection for critical assets requiring TSI (Turbine Supervisory Instrumentation)

### The Analysis and Diagnostic Series

Vibration Analysis Software and Data Acquisition

### The Wireless System Series

A cost effective solution for monitoring BOP (Balance of Plant)

### Control Integrated Protection Series

Transmitters with a 4-20 mA output for integration with PLC, DCS or SCADA systems

### The Sensor Series

A full line of sensors to meet specific application requirements

# The General Protection Series

## Machinery Protection for Balance of Plant (BOP)

### The VM-25 Small Size Monitor

#### Vibration Card:

- \* Two Channels - sensor input 100mV/g
- \* Buffered output & time delay
- \* Each channel is configurable
- \* Recorder output non-isolated 4-20mA, 1-5V
- \* High Pass Filter: 2Hz, 5Hz, 10Hz, 20Hz
- \* Low Pass Filter 500Hz, 1kHz, 4kHz 10kHz

#### Relay Card

- \* Four relays
- \* Dry contact
- \* Trip multiply

The VM-25 is a compact low cost protection system with user friendly installation and configuration.

The modular design enables custom sizing and configuration.

Connects to **ZARK X8** and **Machine Dossier Software**.

# VM-25 SMALL SIZE MONITOR

Display & Control Panel

Vibration Card

#### SOLUTIONS

ModBus

- Vibration Card
- 4-20mA Isolated
- Relay Card

# The API-670 Protection Series

Machinery Protection  
for Balance of Plant (BOP)

# Condition Monitoring Systems for Large Rotating Machines



## The VM-7 Series

Machinery Protection Systems meet the rigorous standards of API-670 and are ideally suited for Turbine Supervisory Instrumentation (TSI) applications on large utility turbine-generator sets. Digitally connect the **VM-7** to **infiSYS** or configure Alarm Relays via Boolean Logic.

- \* API-670 compliant and CE Directive compliant
- \* Redundant power supply & communication options
- \* Agency approvals: CSA, ATEX
- \* Communications: 4-20mA (standard) & Modbus/TCP (optional)
- \* Unique monitoring cards with onboard relays
- \* Sixteen different vibration monitoring parameters with only four modules
- \* Buffered outputs: front panel: BNC; rear: terminal strip
- \* Up to forty-four vibration channels per rack
- \* 1x tracking module for aero-derivatives

## The VM-5 Series with backlit display

The **VM-5 Series** machinery protection system offers a “right-sized” monitoring solution for a wide range of critical equipment, ranging from pumps and small turbines through complete TSI (Turbine Supervisory Instrumentation) monitoring.

With its individual, backlit LCD displays and flexible rack options, the VM-5 remains one of our most popular monitoring solutions.

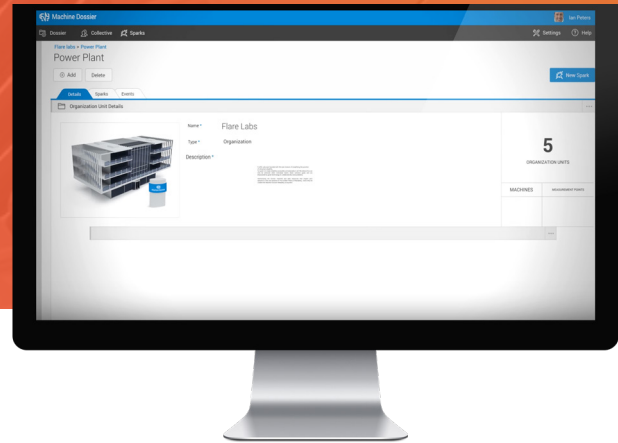


- \* Buffered outputs: front panel: BNC; rear: terminal strip
- \* Up to five alarm/relay outputs per module
- \* Individual 4-20mA outputs per channel
- \* Individual backlit LCD displays and flexible rack options
- \* Available as a two channel protection system

Machinery Protection for  
critical assets such as TSI  
(Turbine Supervisory  
Instrumentation)

# The Analysis and Diagnostic Series

## Vibration Analysis Software and Data Acquisition



### Machine Dossier Software for Balance of Plant

- \* Cloud based software lets you access your data from a browser
- \* Alarm notifications are sent via email and/or text message
- \* Includes the Spark Collaborative Problem Solving tool
- \* Graphical interface makes data display for analysis fast and simple
- \* Export Overall, Spectrum & time waveform data to other systems

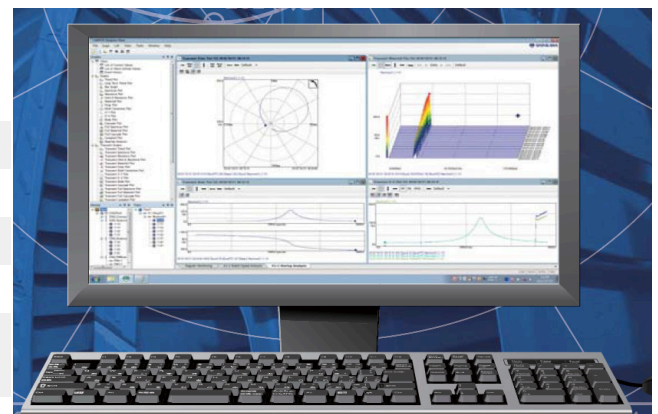
### DAQpod: high speed data acquisition

- \* Interface existing TSI via buffered outputs
- \* Capability to add additional signals for analysis
- \* High resolution 24 bit A/D per channel
- \* Phase marker/Tachometer
- \* Device can be permanently installed or portable



### infiSYS Software

- \* Made for all rotating machinery
- \* Long term Trending, Transient and Steady State Vibration Analysis
- \* Overlay live data on historical start up and shut downs
- \* Bidirectional OPC Interface to other systems
- \* Diagnostic modules for turbines, electric motors, blowers, pumps and compressors (optional)



# The Wireless System Series

A cost effective solution for monitoring BOP (Balance of Plant)



## ZARK wireless solutions

A **ZARK** is a wireless device that monitors the fitness of your machines and notifies you when there is a problem.

**ZARKS** are fast, secure, cost effective and Wi-Fi enabled with WPA-2.

Unlike a sensor, the **ZARK** thinks for itself and is equipped with a powerful 5700 mAh rechargeable lithium-ion battery, that will empower your condition monitoring program instead of impoverishing it.



- \* WiFi 802.11 b/g communication
- \* Rechargeable 5700 mAh lithium-ion battery, lasts up to 18 months
- \* Triaxial MEMS accelerometer
- \* Captures overall and spectrum data and frequency band
- \* User selectable overall and spectrum band alarms for accurate alerts



## ZARK X8

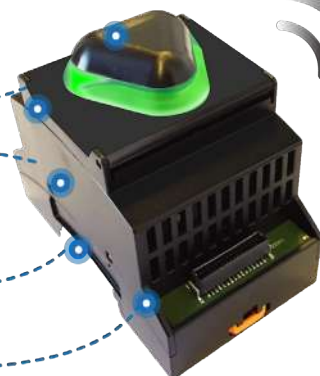
Wi-Fi 802.11 b/g with WPA-2  
Make existing systems wireless

8 Input Channels  
Monitor existing sensors

Battery/AC Powered  
Rechargeable external battery module available

Din Rail Mount  
Mount any switchbox

Easy To Use  
Works just like a ZARK



## ZARK X8 wireless solutions

- \* WiFi 802.11 b/g communication
- \* Runs on AC or battery power
- \* Captures overall, spectrum and time waveform data
- \* One dedicated speed input
- \* Connects easily to existing sensors
- \* Up to eight sensor inputs (accelerometer, proximity probe or voltage)

# The Wireless System Series

Transmitters with a 4-20 mA output for integration with PLC, DCS or SCADA systems



## WK-Series 2 Wire Transmitters



The WK-Series non-contact, eddy current vibration and thrust transmitters offer unique and elegant solutions for monitoring high-speed turbo machinery by directly providing a 4-20mA signal to the machine PLC or DCS.

- \* Cost effective CIP (Control Integrated Protection)
- \* Ideal for compressor sleeve bearings
- \* CE compliant
- \* Hazardous area approvals: CSA, ATEX, TIIS (Japan)
- \* DIN-rail and plate-mount versions available

## CM-Series 2 Wire Transmitters



The CM-Series Transmitter offers the most cost effect solution for protecting assets with rolling-element bearings by providing a 4-20mA signal to a PLC or DCS. The CM-Series contains both velocity to detect mechanical problems as well as acceleration for detecting higher frequency bearing and gear mesh frequencies. Dual output versions are available to measure both vibration and temperature.

- \* The most cost effective Control Integrated Protection (CIP)
- \* Special filtering for VFD and radio signal interference
- \* Trend bearing temperature
- \* Connect to PLC or DCS
- \* Ideal for motors, pumps, gearboxes, fans and other assets with rolling-element bearings

## CM-X Series Signal Conditioners



The CM-X line of DIN-rail transmitters enable the user to create a cost effective network of Control integrated Protection (CIP) modules that interface seamlessly with CM-Series piezoelectric sensors.

The CM-X line represents the most complete CIP offering available on the market today. CM-X vibration modules deployed to handle a variety of monitoring functions can be easily tied to PLC/DCS control systems by a 4-20mA current loop. A signal conditioner is used when the transmitter's frequency and/or temperature range does not meet requirements.

- \* Overall acceleration/velocity vibration module
- \* Field configurable
- \* Relay module with display
- \* Power supply modules
- \* Variety of housing options
- \* Early bearing defect module with enveloped acceleration + overall outputs

# The Sensor Series

A full line of sensors to meet specific application requirements

The FK-Series transducers represent the cutting edge of eddy current proximity probe design.



## FK-Series Non Contact Eddy Current Proximity Probes

The FK-Series fully meets the requirements of the American Petroleum Institute Standard 670 (API-670) and its rugged design ensures years of trouble-free service.

- \* 100% API-670 (fifth edition) compliant
- \* Agency approvals: CSA, ATEX, NEPSI, KTL,
- \* Unique "anti-wicking" design prevents fluid migration through cable jacket
- \* High temperature and narrow side view options available
- \* Mounting adapters to accommodate a variety of legacy drivers/proximitors
- \* 5mm, 8mm and 11mm vibration, position, speed and eccentricity probes
- \* 18mm, 25mm and 50mm differential expansion probes

## CM-Series Case Mounted Vibration Sensors

The CM-Series case mounted piezoelectric vibration sensors are ideal for detecting the vibration of rolling element bearings, gear boxes, pumps and motors. The rugged, yet flexible design of the CM-Series enables us to offer a wide variety of sensor housing, cabling & performance options.

- \* General purpose and hazardous area accelerometers
- \* Standard, high temperature, low frequency and piezovelocity sensors available
- \* All general purpose accelerometers are shear mode
- \* Range of sensitivities from 10mV/g to 500mV/g
- \* Dual vibration and temperature outputs available



## CV-87 Seismic Hi-Temp Velocity Sensor

The CV-87 moving-coil seismic velocity sensor is ideal for monitoring applications that require a rugged design capable of handling the extreme temperatures experienced with many gas turbines.

- \* Temperature range: -65°F to +707°F
- \* No power required with self-generating, moving coil
- \* Rugged stainless steel casing
- \* Frequency response: 30Hz to 1kHz  $\pm$  15%@77°F

## LS/LD-Series LVDTs

LVDTs (Linear Variable Differential Transformers) are ideal for critical Turbine Supervisory Instrument (TSI) parameters such as case expansion and valve position. These highly reliable units possess the necessary durability to work deep within your system and ensure that all essential systems are operating at full capacity.

- \* Various types of measuring range: nine ranges from 0-50mm to 0-450mm
- \* Hazardous area approvals: CSA and FM (with VM-11P signal conditioner)
- \* Output: 1-5vDC, 4-20mA or Modbus/RTU with DIN-rail signal conditioner





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# Product Catalog



Industrial Vibration  
Monitoring Solutions

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**IT'S ALL ABOUT DRAMA FREE  
RELIABILITY**