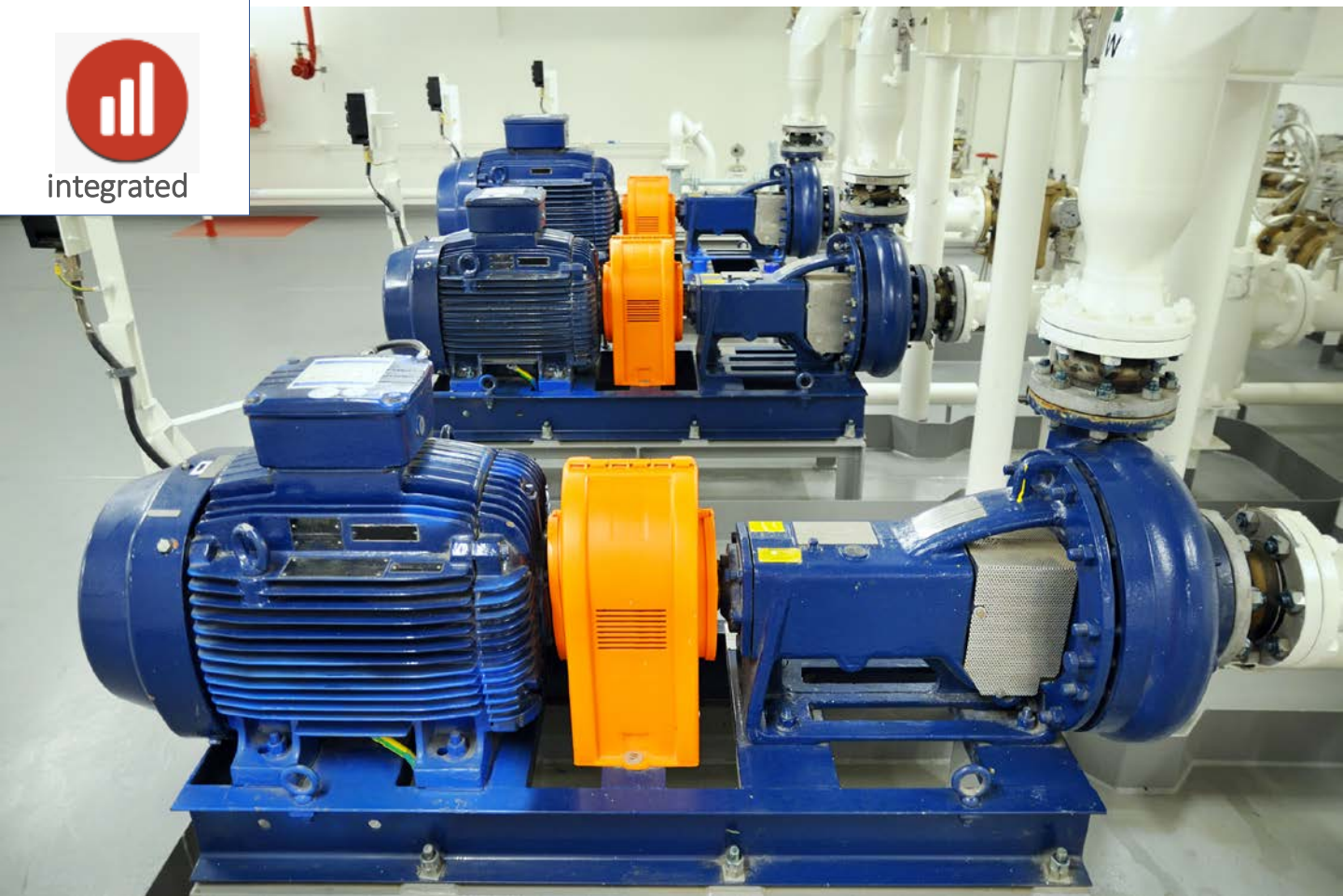


Motors Condition monitoring MCM Detection & Monitoring



integrated



www.powerview-energy.com



Pioneering the future of power testing and monitoring

Motors condition monitoring

MCM - Detection & Monitoring



The most versatile motors monitoring tool available on the market today

Monitors 3 axial vibrations, with FFT and compares at similar load , monitors ground leakage current , monitors load and stator and bearing temperature



Ultra long wireless communication And low power consumption

Wireless communication at ultra long range of several tenths of kilometers



Proven Technology

ANALOG DEVICES Vibration sensors inside



Alarms, notifications and reporting

Fully customizable alarms , email and SMS notification and trending



Most cost-effective motor monitoring solution

Most advanced software with notification and diagnostics

Easy installation (takes less than 15 minutes to completely integrate the system)

Motor faults

Motors are prone to failures due to poor craftsmanship, improper maintenance, overloading, material imperfection stress etc. One of the most common failure on HV Motors are the insulation failure ,bearings failure , vibrations and overloading

The MCM monitors:

Leakage currents (current flows through insulation in all types of insulation failures)

3 axial vibrations with FFT (for bearings , diagnostics, magnetic related problems diagnostics, reductor or gearbox diagnostics, coupling diagnostics and fans and pump diagnostics

stator temperature (for detecting insulation and overloading failures in the earliest stage)

Bearings temperature (for detecting bearings failure at the earliest stage)

Load current (for overloading detection and service life extension)

Description

The POWER VIEW MCM is a system for HV motors permanent installation. The installation includes 1 magnetic mount 3 axial vibration sensor in metal enclosure (EMC shielded housing), Leakage current clamp permanently installed on one to 3 grounding points on the motor, 1 CT at one motors phase. This helps in early detection of all insulation problems at the very early stage so maintenance can be well planned, and expensive damage and downtime can be prevented.

The monitoring system is available in several configurations starting from 1 vibration 1 grounding point current monitoring 4 points stator temp monitoring and total 2 points bearings temperature monitoring to 4 points vibration 12 grounding point current monitoring 16 points stator temp monitoring and total 8 points bearings temperature monitoring. All versions are available in various IP protection classes starting from indoor to outdoor IP65 installation. The power supply is 5V DC and it can be either network, solar or battery supply unit.



Installation

The leakage current and load current sensors are CT's which should be installed on the grounding point and 1 load conductor of the motor.. The absolute vibration and temperature sensors are magnetic and but they can also be installed using special adhesive on the stator and bearings . The monitoring device is wirelessly connected to advanced cloud maintenance Scada system which offers various alarm notification options.

The system comes with preset alarms according such as Daily , weekly , monthly ROC limit , Absolute value. All alarms are editable by users .

Technical specification

Load current sensor

Load Current	1A~600A
CT Inside Diameter	φ35.5mm
Applicable Frequency	10Hz~5kHz
Phase Accuracy	±0.5° (600A/10Ω)
Rated Voltage	Less than AC600V for low voltage circuit of coated wires
Withstanding Voltage	AC2200V/1 minute (between output terminal and outer case)
Operation Temperature	-25~60°C, less than 80%RH w/o condensation
Standard	Compliant with RoHS directive

Leakage current sensor

Leakage current monitoring	1mA - 10A
CT Inside Diameter	φ22mm
Applicable Frequency	10Hz~5kHz
Rated Voltage	Less than AC600V for low voltage circuit of coated wires
Withstanding Voltage	AC2200V/1 minute (between output terminal and CT)
Operation Temperature	-25~60°C, less than 80%RH w/o condensation
Standard	Compliant with RoHS directive

Vibration sensor

Accelerometer Range	+16 g for all 3 Axes
Resolution	13 bit
Accelerometer Rating	10000 g
Bandwidth	3200 Hz
FFT Analysis	10 frequencies with the biggest contribution
Operating Voltage	2-3.6 V DC
Operation Temperature	-40~85 °C
Standard	Compliant with RoHS directive

Temperature Sensor

Temperature Range	-5 5°C to +125 °C
Accuracy	+ - 0.5 °C
Resolution	12 bit

Acquisition and Communication System

Processor	ARM Cortex-M7 at 600 MHz
Resolution	8,10,12 bits
Operating Voltage	5 V
Sampling Rate	Up to 400 kHz
Housing	EMI shielded heavy duty outdoor -aluminum diecast enclosure with enhanced impact resistance. Neoprene seal and IP-65 Protection



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