



Asset Management and Energy Efficiency Toolkit

IMMEDIATE PAYBACK!

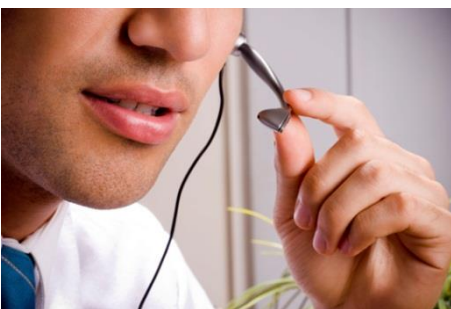
Taking corrective action for existing equipment faults will eliminate unplanned downtime, improve energy efficiency, reduce maintenance cost and extend equipment life time.

ENERGY CONSUMPTION

Motor driven systems consume 66% of the electrical energy in an industrial plant. Any improvement can yield considerable amount of energy saving.

OPERATIONS AND MAINTENANCE

It has been estimated that Operations and Maintenance programs targeting energy efficiency can save up to 20% on energy bills without a significant capital investment. From small to large sites, these savings can represent thousands to hundreds-of-thousands of dollars each year, and many can be achieved with minimal cash outlays (*U.S. Department of Energy*).



Artesis (Asset Management Toolkit) AMT is an Asset Management and Energy Efficiency Toolkit which use three phase voltage and current signals to diagnose existing electrical and mechanical problems.

Check-Up for Motor Driven Equipment. Routine check-up and early diagnosis of equipment prevents catastrophic damages and helps to reduce energy consumption and operating costs.

How It Works

Artesis AMT is equipped with a computer, a fully functional AES for AMT Software, current transformers, and cables. Artesis AMT is connected to motor cables using clamp on current sensors and voltage cables. It collects data from motor driven systems and saves them to the SQL database. At the end of the testing period, the toolkit generates a condition assessment report which indicates existing faults of the system, time to failure information, recommended corrective actions, and effects of these faults on energy efficiency.

Fault Coverage

- Loose foundation/ components
- Unbalance/misalignment/coupling
- Transmission faults
- Driven equipment faults
- Bearing faults
- Rotor faults
- Stator/insulation faults
- Voltage unbalance
- Current unbalance
- Internal and external electrical faults

Process Faults

- High energy consumption
- Low efficiency
- Cavitation in pumps
- Flow turbulence in fans, blowers
- Filter and heat exchanger fouling
- Lubrication
- Oversize/undersize motors

Parameters

- RMS values of three phase voltages and currents
- Frequency
- Power factor
- Active power
- Reactive power
- Total Harmonic Distortion
- Harmonics up to 13th
- Voltage and current balances



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SECTORS

Oil & Gas
Energy
Cement
Metal
Pharmaceutical
Automotive
Water
Transportation
Food & Beverages
Buildings

APPLICATIONS

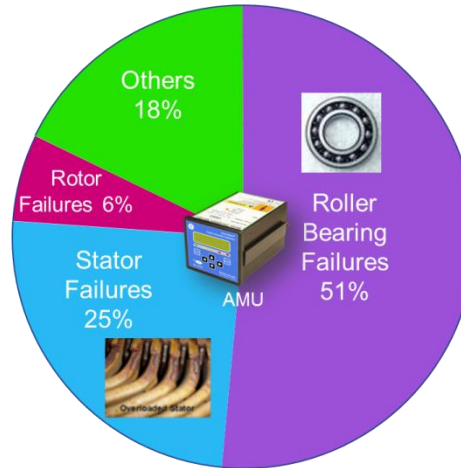
Compressors
Fans
Pumps
Conveyors
Generators
Motor Driven Equipment

DIMENSIONS

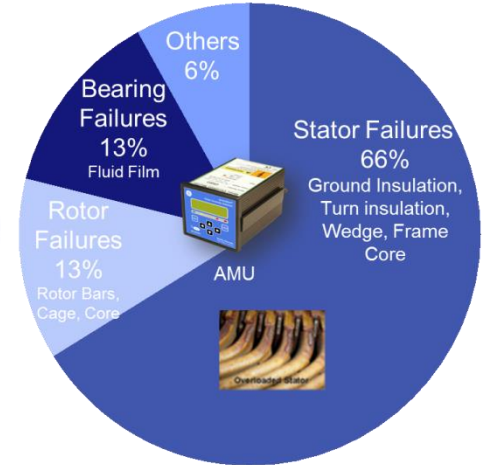
550x310x190mm



Typically up to 4Kv



Typically 4kV and above



Distribution of Electric Motor Failures

Key Benefits

Immediate payback by corrective action
Instant condition assessment report
Advanced analysis and reporting
No sensors on motor or equipment
Improved efficiency and reliability of plant & processes
Increased machine availability

Software Features

AES for AMT Software
Classification of data into companies and motors
Instant Condition Assessment Report
Instant PSD download for frequency spectrum analyses
Instant voltage-current waveform download

Current Transformers

4 sets split-core current transformers
400/5A, 300/5A, 200/5A, and 100/5A, Class 1
Frequency range 50/60 Hz
System rated voltage 0.72/3kV
Isolation voltage 3kV (1 minute)
Continuous current 1.2x rated current