

# Test I go

## Motor Current Signature Analysis

SEMAPI's dynamic electric motor test and monitoring instruments are built to conduct condition monitoring tests of motors and generators from a Motor Control Center (MCC).

The "Test I go" is the latest generation of battery-operated instruments that test motors and generators while they are in operation.



The Motor Current Signature Analysis (MCSA)

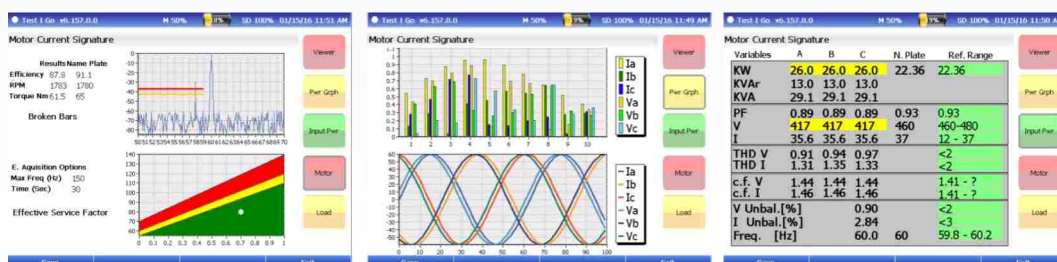
"Test I go" performs functions for predictive maintenance programs. It identifies possible power circuit problems that degrade motor health, examines overall motor power conditions, monitors the load and observes motor performance plus estimating energy savings. It is programmed to supply information on:

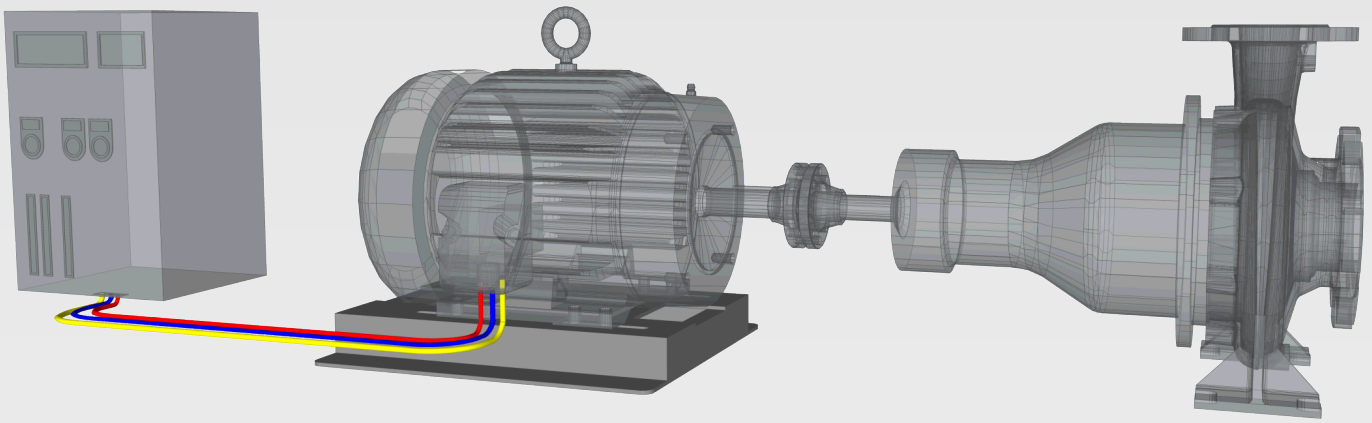
- Three phase Voltage levels
- Voltage balance/unbalance
- Harmonic and total distortion
- Rotor cage condition
- Motor efficiency
- Effective service factor
- Over-current
- Power factor correction
- Torque
- Load



Once testing is complete (ex.: 30 seconds), you can save and store results for each individual electric motor. This type of documentation is critical for any predictive maintenance program. It allows the recalling of previous information for trending over time. With the "Test I go", collect, store, recall and manage test results using common database file formats. You can generate reports quickly, allowing operators visual confirmation of motor integrity. Results are immediate efficiencies allowing the operator to determine the true cost of wasted energy.

Maintenance professionals need to minimize costs associated with unexpected motor failures and production downtime. This is the only tool in the world capable of performing, also, a sophisticated, full 6 Channels Mechanical Vibration Analysis. This avoids having to purchase two testers to perform Predictive Maintenance for Industries with small number of motors, or, allows to buy a single platform unit to integrate both mechanical and electrical analysis, for large industrial facilities with lots of electric motors.





The “Test I go” is a motor monitoring and troubleshooting tool that helps maintenance personnel to minimize failures and maximize the up-time of machine systems that drive their businesses.

The “Test I go” is not a motor insulation tester. Instead, it uses advanced software algorithms to monitor and assess conditions across a motor/machine system that impact the health and performance of the motor within the system. It evaluates the quality of power fed to a motor, assess motor performance indicators, and tracks the amount and condition of load placed on the motor.

Maintenance techs will often argue over the origin or causes of a given motor problem. The mechanical techs will say the problem is Electrical, and the electrical techs will argue it's mechanical. This tool will identify true root causes where they are.

The “Test I go” is an effective troubleshooting tool, and clearly detects when a problem is either electrical or mechanical. It is also a powerful predictive maintenance tool that tracks multiple data types to identify trends that indicate potential problems.

#### *Power quality*

If the power being fed to a motor/machine system has any distortion, imbalances or improper levels for the motor, it can create problems that shorten the motor's service life. The “Test I go” identifies power quality problems that can unnecessarily stress a motor.

The instrument monitors power, voltage and current levels/imbalances, as well as harmonic distortion.

These can identify the following problems, for example:

- Improper tap settings on supply transformers
- Poorly-distributed single-phase loads
- An excessive number of VFDs without proper filtration
- Excessive non-harmonic frequencies on a given VFD
- Improper filters
- Wrong Star-Delta timing transitions
- Cavitation in pumps
- Overload
- Missing or open power-factor correction capacitors
- High-resistance connections



It is also very useful to provide written confirmation of existing problems that often professionals know they have and require further proof to be able to take corrective action.