



Rotating Machines Failure Modes

Rotor (Core and Windings)

- Inter Turn Fault / Short
- Ground Fault / Short
- Open turn and loss of excitation/trip
- H2 Cooling System Failure
- H2 Leak into air environment
- Rotor Surface Overheating
- Overheating Core (Core Melting)
- Insulation Erosion / Burning

Shaft and Bearings

- Loss of Lubrication, Grease or Oil
- Mechanical Failure of Bearing
- Mechanical unbalance of Shaft
- Excessive Wear
- Electrically proved failure of Bearing Element
- Normal Aging of Bearing and Shaft

Termination Box / Electrical Connections

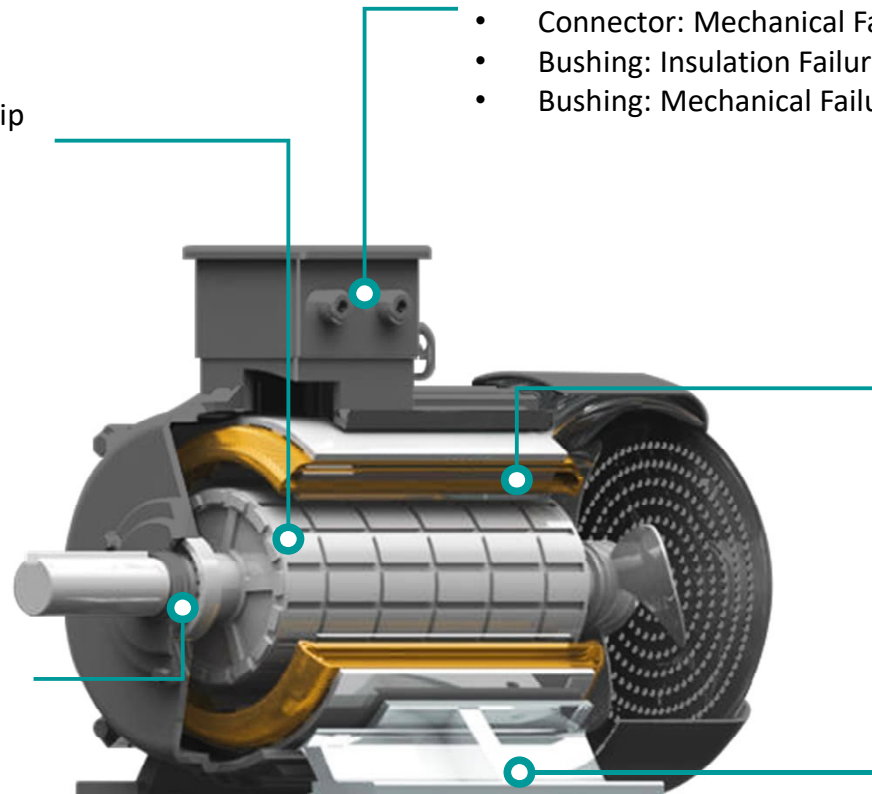
- Connector Insulation Failure
- Connector: Mechanical Failure
- Bushing: Insulation Failure
- Bushing: Mechanical Failure

Stator (Core and Windings)

- Phase to Phase / Phase to Ground Fault
- Insulation abrasion, ground wall damage, ground fault
- Loss of phase or parallel
- Loosening of End Windings
- Insulation Erosion / Shorted Turns
- Damage to Grading Coating
- Broken Bars
- Excessive Moisture
- Scarf Joint Mechanically Opened

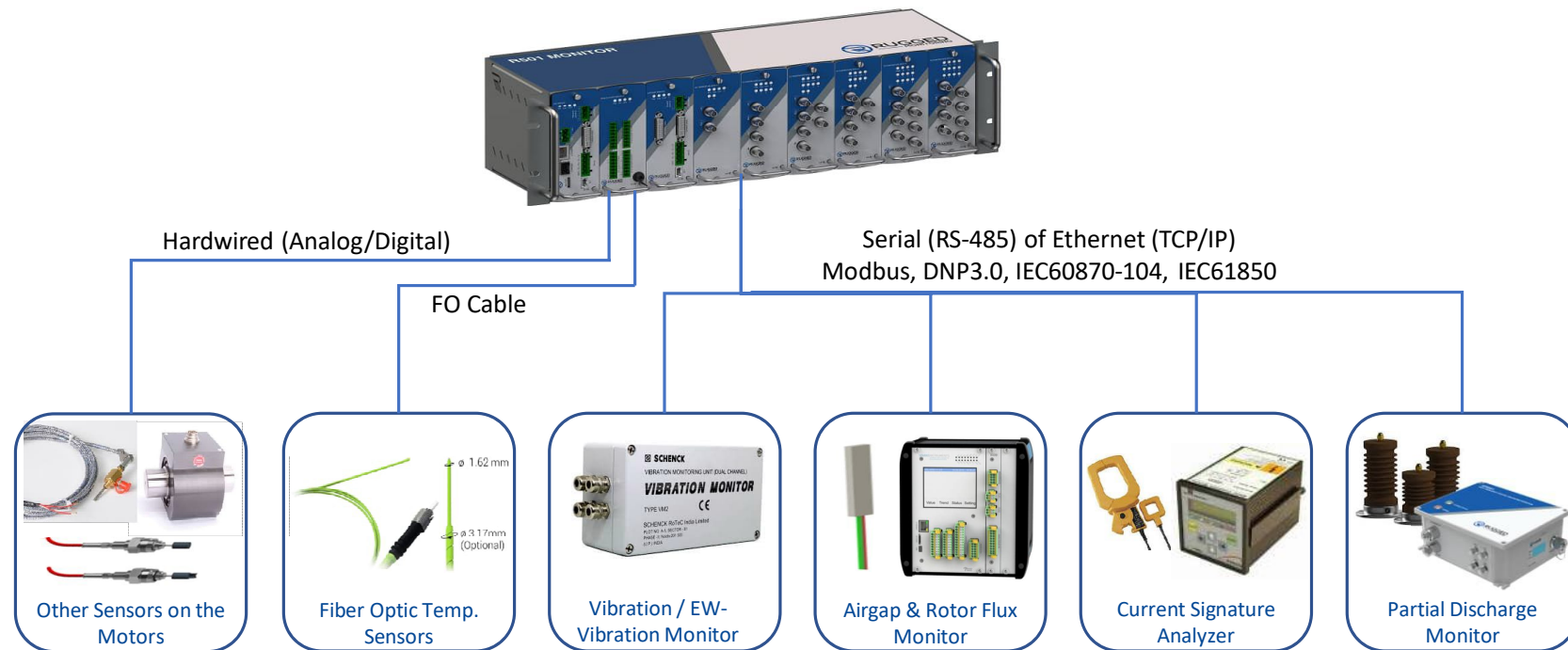
Frame / Enclosure

- Failure of Heat Exchanger Pipework
- Failure of Heat Exchanger Tubes
- Failure of Fans

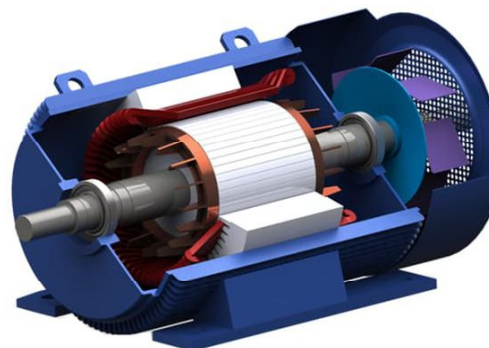




Motor Condition Monitoring – R501



1. Alignment Sensors
2. Torque Sensors
3. Temperature Sensors
4. Viscosity Sensors
5. Noise Sensors
6. Motor Current and Voltage Sensors





Partial Discharge Monitoring

Permanent and Portable PDM System

1. Capacitive Coupler based sensors for Motor Terminal / junction Box
2. Customized solutions available as per customer requirements
3. PD Test and Measurement Service
4. Key Features
 - Highly accurate Monitoring of PD activity
 - Cost Effective solution of Motor and Generator PD Monitoring
 - Support for multiple technologies (HF, Capacitive Couplers, UHF etc.)
 - PD Expert Reporting Service



Capacitive Couplers



PD Test Kit for Motors / Generators