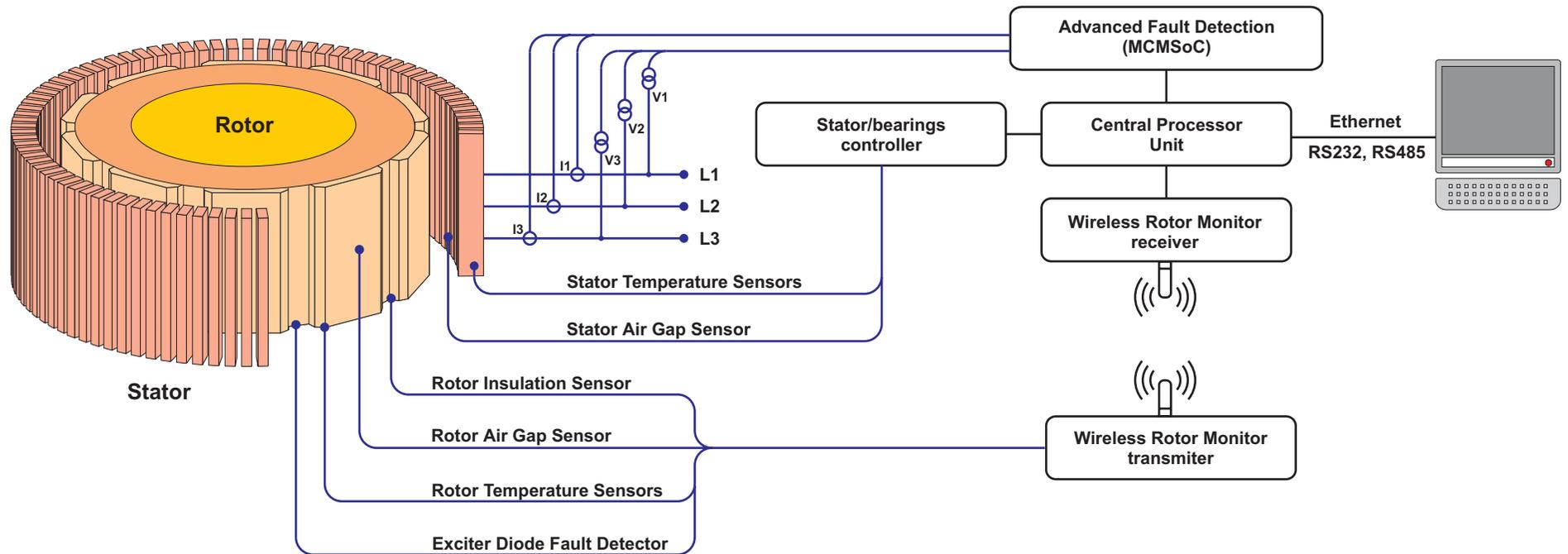


# Generator Condition Monitor



**MIKROTREND**  
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# Generator Condition Monitor

## The most advanced technologies combined in one system:

### 1. Advanced Fault Detection and Diagnostic Technology (MCMSoC)

MCMSoC uses advanced, NASA-developed technology to provide a self learning capability using the generator itself as a sophisticated sensor. It requires only connection into generators electrical output lines, avoiding the need for specialised sensors. It automatically teaches itself about the normal operating environment greatly reducing the specialist skills required of the user.

### 2. Wireless Rotor Monitor

Using sophisticated micro-radio-transmitter for transmission of measured data makes possible continuous monitoring of vital parameters on the rotor. Thanks to Rotor Air Gap Sensor this is the first method to allow real time measurements of stator geometry under dynamic conditions. Together with rotor temperature sensors fault prevention is now possible and saves cost of major overhauls.

### 3. Self-learning Knowledge-based software

Early warnings and simple plain text messages are possible with Self-Learning Knowledge-based Software. In such a way seasonal changes of water or air temperature automatically change warning settings allowing early detection of potential problems, long before it reaches maximum limits.

### Stator/Bearings Controller

Continuous measurement of Stator and bearings temperature measurement during dynamic conditions allows for early warning and prevention of major faults.

Air Gap measurement from the Stator allows accurate monitoring of Rotor geometry and early warnings of impending failure.

### Central Processor Unit

Collects data from all system components and saves to hard disk drive. Makes data available to the Network users for visualisation and postprocessing. Alarm and shut-down function is also available here. Central Processor Unit runs Real-Time operating System (DOS) making it very reliable and fast.

### List of monitoring parameters - warnings:

#### Electrical parameters:

Powerfactor,  
Active Power,  
Voltage balance,  
Current balance,  
Voltage RMS,  
Current RMS,  
THD and Harmonic Distortions up to 13<sup>th</sup>,  
Frequency,  
Gain,  
Stator isolation,  
Voltage imbalance,  
Cabling isolation problem,  
Generator connector,  
Terminal slackness,  
Contactors failure,  
Rotor Winding temperature,

Rotor isolation,  
Exciter Diode Fault Detector,  
Rotor Air Gap,  
\*Rotor Excitation Voltage,  
\*Rotor Excitation Current,  
\*Rotor Magnetic Induction.  
\*optional

### Mechanical parameters:

Stator Air Gap,  
Stator Core temperature,  
Rotor Unbalance,  
Misalignment,  
Bearings,  
Loose foundation,  
\*\*Coupling,  
\*\*Bent shaft,  
\*\*Loose rotor,  
\*\*Eccentric rotor,  
\*\*Oil whirl,  
\*\*preliminary, ask for availability.

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