

# WIND POWER SOLUTIONS



**RENEWABLES**



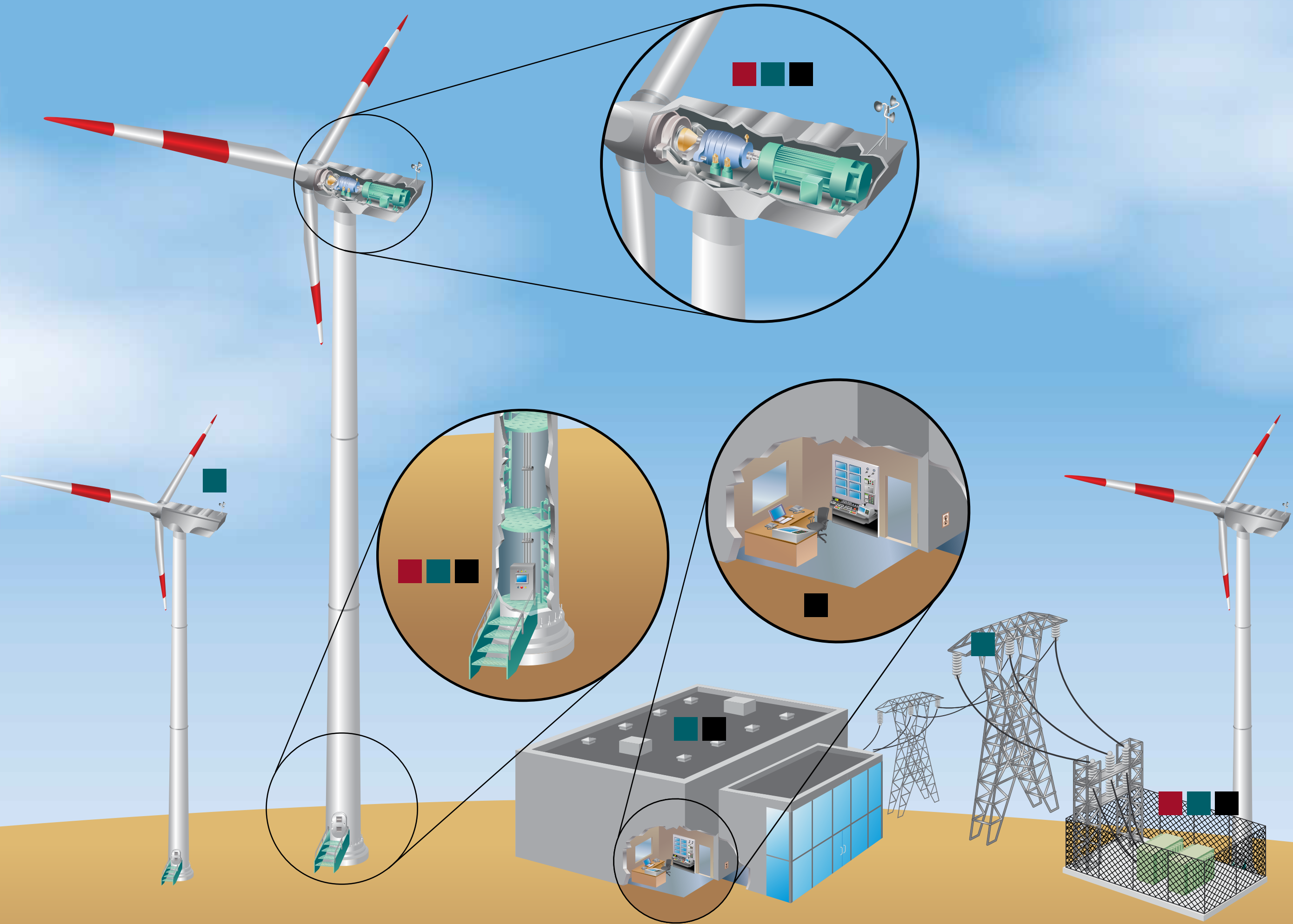
# WIND POWER SOLUTIONS

Wind energy is among the fastest growing energy sources today. As one of the generation types identified in the reduction of carbon pollution, this method of energy production helps reduce power production costs while lowering emissions. On a wind farm, technicians need to be able to service equipment quickly, safely, and efficiently.

Fluke tools perform like champions in the most challenging wind farm environments: onshore, offshore, or coastal. You can depend on Fluke tools to keep your world up and running.



# WIND POWER SOLUTIONS



Electrical Test Tools									Infrared and Vibration Tools				Software		
Power quality analyzers	Handheld oscilloscopes	Power loggers	Clamp meters	Insulation multimeters	Earth ground testers	Electrical testers	Digital multimeters		Thermal imagers expert	Thermal imagers professional	Infrared thermometers	Vibration testers		Maintenance software	
430 Series II	125B Series II	1738	376 FC	1587 FC	1625-2 Kit	T5 Series	279 FC	87V	TiX560	Ti450	568	805 FC	810	820-2	Fluke Connect®

# WIND POWER SOLUTIONS

## Site Manager

**Focus:** Ensuring high availability of equipment

- Ensuring uptime/downtime is continuous and predictable
- ROI of resources
- Increase wind farm productivity
- On-going demand to reduce operating costs

**Solutions:**

- Fluke Connect
- Power quality analyzers
- Handheld Oscilloscopes with Communication Bus Diagnostics
- Earth ground testers
- Insulation multimeters
- Thermal imagers
- Vibration testers

## Site Performance Engineer

**Focus:** Optimizing energy and power systems performance

- System configuration, optimization and analytics
- Minimization of system downtime
- Maintaining consistent power loads
- Troubleshooting generators, transformers, panels, and substations

**Solutions:**

- Fluke Connect
- Power quality analyzers
- Handheld Oscilloscopes with Communication Bus Diagnostics
- Digital multimeters
- Clamp meters
- Insulation multimeters
- Thermal imagers

Electrical Test Tools								Infrared and Vibration Tools					Software		
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# WIND POWER SOLUTIONS

## Operations Technician

**Focus:** Reliable operations, monitoring and reporting under normal conditions

- Ensure maximum asset uptime
- Monitoring and evaluating performance and service issues
- Troubleshooting emergent issues

**Solutions:**

- Fluke Connect
- Infrared thermometers
- Insulation multimeters
- Thermal imagers

## Wind Turbine Service Technician

**Focus:** Install, service, repair, and troubleshoot wind turbines

- Troubleshooting wind turbine generators
- Service complex hydraulic systems and electrical controls machinery
- Electro-mechanical installation and maintenance

**Solutions:**

- Fluke Connect
- Digital multimeters
- Insulation multimeters
- Clamp meters
- Handheld oscilloscopes
- Thermal imagers
- Vibration testers

Electrical Test Tools							Infrared and Vibration Tools					Software			
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# WIND POWER SOLUTIONS

## Electricians/Electrical Engineer

**Focus:** Electrical installation, maintenance and repair

- Power installation support and reworks
- Troubleshooting sensitive power equipment
- Power quality analysis for consistent and efficient delivery

**Solutions:**

- Fluke Connect
- Power quality analyzers
- Digital multimeters
- Infrared thermometers
- Electrical testers
- Insulation multimeters
- Clamp meters
- Earth ground testers
- Thermal imagers



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# RECOMMENDED WIND POWER SOLUTIONS

## FLUKE CONNECT



### Best suited for:

- Simplifying preventive maintenance programs
- Seamlessly integrating tool data into software
- Diagnosing asset health in the field
- Cloud-based data sharing

## VIBRATION TESTER



### Best suited for:

- Predictive and condition-based maintenance
- Identifying root cause and diagnosing severity of machine's condition
- Prioritizing critical repair and replacement options
- Use with motors, pumps, fans, compressors, belt/chain drives, gearboxes and spindles

## THERMAL IMAGERS



### Best suited for:

- Inspection of electrical panels and detection of "hot spots" on breaker panels and bus work
- Monitoring cooling fluid levels such as dielectric oils for transformers
- Use with steam traps, electrical panels, motors and VFDs

## POWER QUALITY ANALYZERS



### Best suited for:

- Troubleshooting and preventing problems in power generation, transmission and distribution systems
- Conducting load studies to reduce energy usage
- Use with motors, pumps, generators, transformers, compressors and electrical panels

# RECOMMENDED WIND POWER SOLUTIONS

## DIGITAL MULTIMETERS



### Best suited for:

- Electrical system installation and troubleshooting
- Quick voltage detection
- Environments with both ac and dc (autoVolt) or ghost voltages

## CLAMP METERS



### Best suited for:

- Verifying the presence of load current, AC/DC voltage and continuity
- Measuring 1000 A ac/dc (2500 A AC with iFlex) in motors, pumps, compressors, fans, blowers, vaults and bus bars
- Measuring loads and line frequency in circuits

## POWER LOGGERS



### Best suited for:

- Capturing and logging over 500 power quality parameters
- Troubleshooting and performing advanced analysis on power quality issues
- Energy surveys to determine sources of electrical energy waste

## INSULATION TESTERS



### Best suited for:

- Wide range of tests including simple spot checks, timed tests and breakdown tests
- Insulation resistance testing up to 10 kV
- Use with switchgear, motors, generators and cables