



Powering Reliability, Delivering **Precision**



# WORLD CLASS CAPABILITIES

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Fission Grid is redefining the future of energy infrastructure with scalable, decentralized power solutions. By combining cutting-edge technology, sustainable engineering, and a people-first mindset, we help communities and industries unlock reliable energy — smarter, faster, and greener.





## OUR VISION

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To be the leading electromechanical service provider in the UAE and surrounding region, renowned for our technical integrity, reliability, and end-to-end solutions that support sustainable infrastructure development.

## OUR MISSION

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To deliver comprehensive, high-quality electromechanical solutions from equipment supply and installation to testing, commissioning, and maintenance. We ensure safety, efficiency, and operational excellence in every project, powered by innovation and client-centric values.

## OUR VALUES

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- Sustainability at the core of everything we build
- Precision and reliability in every system
- Open collaboration with clients, partners, and communities
- Design-first approach to usability and scalability
- Transparent, ethical, and future-focused leadership

## OUR STRENGTHS

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- A highly skilled multi-disciplinary engineering team
- Modular, future-proof grid design
- Smart monitoring systems powered by data
- Rapid deployment with scalable customization
- Proven performance across industrial and remote environments

## THE COMPANY

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Fission Grid is a future-forward energy solutions company, focused on delivering smart, scalable, and sustainable microgrid systems across India and beyond. With a foundation rooted in engineering excellence, system design, and a vision for decentralization, we help industries and communities access reliable power — even in the most challenging environments.

## Who We Are

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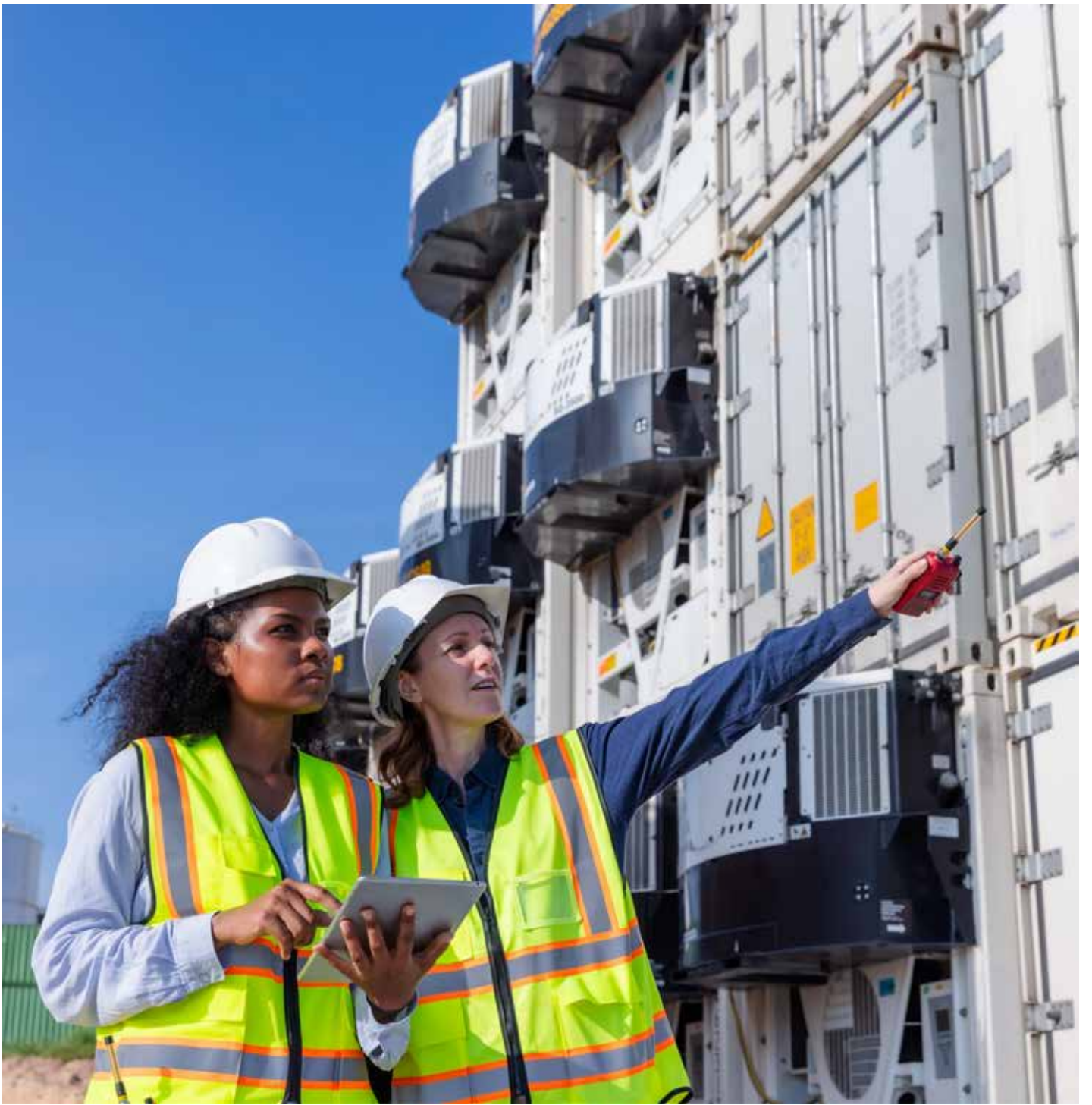
Fission Grid has grown into a pioneering force in decentralized energy infrastructure. From industrial parks to rural installations, we specialize in building intelligent power networks that are modular, maintainable, and built to scale.

## Our Commitment

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We stand by one promise — “Energy with Intelligence.” Our expert teams take pride in every watt delivered, every component tested, and every solution engineered to last. Every installation is backed by thoughtful design, ethical practices, and unwavering quality control.







## **TRANSFORMER SCOPE OF WORK**

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Our scope covers the supply, installation, testing, commissioning, and ongoing maintenance of transformers, ensuring full compliance with all applicable industry standards and project specific requirements.

## **SERVICES**

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- Complete installation and site testing of power transformers
- Breakdown Voltage (BDV) testing of transformer oil
- Dissolved Gas Analysis (DGA) and Furan content testing
- Tan Delta and Capacitance measurements for insulation health
- Sweep Frequency Response Analysis (SFRA) for winding integrity
- Transformer Turns Ratio (TTR) and Winding Resistance measurement
- Vector Group verification and polarity checks
- Insulation Resistance (IR) testing
- Short Circuit Impedance measurement
- Control panel functionality and protection scheme verification
- OLTC (On Load Tap Changer) inspection and testing
- AVR (TAPCON Relay) testing and configuration

## **SUPPORT**

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- High-efficiency oil filtration and dehydration
- Periodic diagnostic testing and preventive maintenance
- Troubleshooting and fault localization
- Detailed commissioning reports and handover documentation



# SWITCHGEAR SCOPE OF WORK

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The scope of work includes the design, supply, installation, testing, and commissioning of LV and MV switchgear systems, ensuring maximum safety, operational reliability, and compliance with relevant national and international electrical standards.

## SERVICES

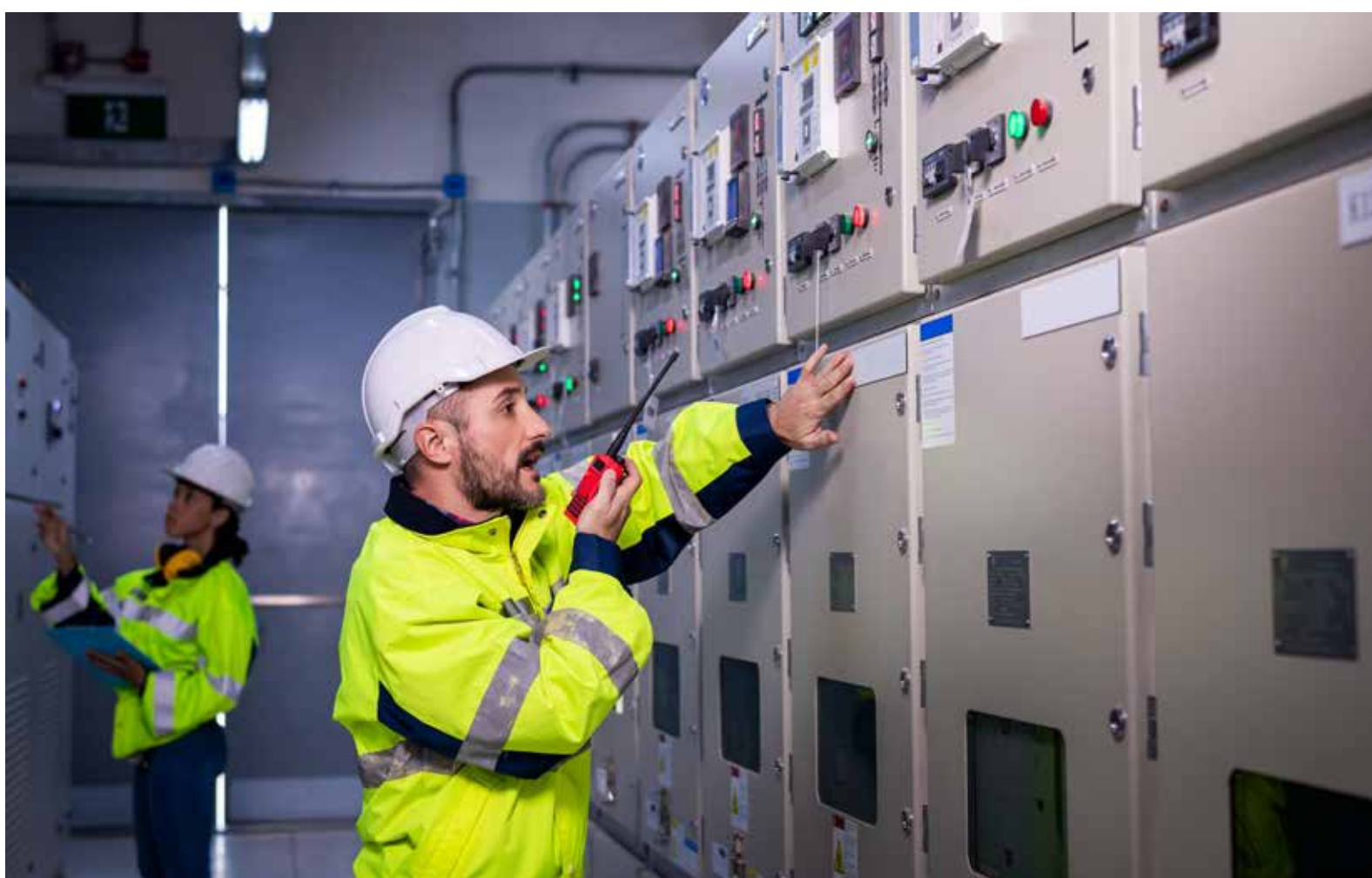
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- Complete installation, testing, and commissioning of Low Voltage (LV) and Medium Voltage (MV) switchgear systems
- Visual inspection for physical damage, moisture ingress surface tracking, and contamination
- Verification of mechanical interlocks, isolators, and earthswitches for operational integrity
- Contact resistance testing for busbars and circuit breakers
- Infrared thermography to detect abnormal heating and hotspots
- Insulation Resistance (IR) testing for busbars, terminals, and internal wiring
- Functional testing of control wiring, indicators, and annunciation systems
- Earthing system continuity check to ensure safety and compliance

## SUPPORT

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- Periodic condition assessment of switchgear components
- Predictive diagnostics for early fault detection
- Maintenance of auxiliary systems and protection relays
- Comprehensive reporting and test documentation for client records





## **AIR CIRCUIT BREAKER (ACB) TESTING**

Comprehensive testing and maintenance of Air Circuit Breakers (ACBs) to ensure operational reliability, safety compliance, and protection system accuracy.

### **SERVICES**

- Insulation resistance and contact resistance testing to assess electrical integrity
- Trip unit calibration and settings verification (Micrologic, etc.)
- Mechanical operation and lubrication check for smooth breaker performance
- Functional testing of charging motors, closing and tripping coils
- Secondary injection testing for trip units to verify protection relay performance
- Breaker timing test to ensure accurate open/close response
- Inspection of interlocks, arc chute, and mechanical components for wear or damage



# Vacuum Circuit Breaker (VCB) Testing

Thorough inspection and testing of Vacuum Circuit Breakers (VCBs) to ensure safety, performance reliability, and adherence to industry standards for medium-voltage systems.

## SERVICES

- Visual inspection and integrity check of vacuum interrupters
- Timing tests for open, close, and trip operations
- Contact resistance and insulation resistance testing to verify circuit integrity
- High Voltage (HV) withstand testing to assess dielectric performance
- Mechanical operation check, including bounce and over-travel measurement
- Relay coordination and trip circuit functionality verification





## **DISTRIBUTION BOARD (DB) – SCOPE OF WORK**

The scope includes the supply, installation, and wiring of Distribution Boards (DBs), with a focus on circuit integrity, safety, and full compliance with applicable electrical codes and project specifications.

## **SERVICES**

- Visual inspection for loose terminations, signs of overheating, and physical damage
- MCB, RCBO, and ELCB functionality check for proper protection response
- Tightness check of terminals and busbars to prevent arcing or failure
- Insulation resistance testing for feeder circuits and outgoing cables
- Load balancing and phase sequencing to ensure optimal distribution
- Functional testing of built-in metering units and protection devices
- Clear labeling and circuit identification for ease of maintenance and safety
- Earth continuity test to verify grounding of all metallic enclosures

# Cable Testing Scope of Work

The scope covers the testing, commissioning, and quality verification of power and control cables to ensure safety, insulation integrity, and long-term operational reliability.

## SERVICES

- Insulation resistance testing using Megger to detect degradation or moisture ingress
- High Voltage withstand testing (VLF / AC / DC HiPot) for MV and HV cables
- Continuity and phase sequence checks to validate correct cable interconnections
- Sheath fault location to identify insulation damage or earthing issues
- Tan Delta and Partial Discharge testing for medium/high-voltage cable diagnostics
- Joint and termination inspections for workmanship and connection reliability
- Cable tray routing check for physical alignment, bend radius, and tray integrity







## **EARTHING SYSTEM – SCOPE OF WORK**

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The scope involves the installation and testing of earthing systems, including electrodes, conductors, and terminations, to ensure effective grounding, safety, and regulatory compliance.

## **SERVICES**

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- Installation of substation earthing systems up to 400kV
  - Earth rod driving and connection validation
  - Soil resistivity measurement using Wenner or Schlumberger methods
  - Grid earth resistance testing to ensure low-impedance fault paths
  - Step and touch potential assessment to evaluate human safety levels
- Compliance with IS/IEC standards for earthing infrastructure

# **CAPACITOR BANK – SCOPE OF WORK**

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The scope includes the supply, installation, testing, and commissioning of capacitor banks and Power Factor Correction (PFC) panels to improve energy efficiency and maintain system power quality.

## **SERVICES**

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- Installation and maintenance of PFC panels and capacitor banks
- Visual inspection for capacitor bulging, oil leakage, or swelling
- Harmonic filter component testing, including reactors and detuned filters
- Insulation resistance measurement to ensure dielectric integrity
- Contactor, fuse, and resistor functionality check
- APFC controller testing with stepwise switching operation validation
- Load measurement and thermal scanning for early fault detection
- Grounding and earthing continuity check for safety and performance compliance





## **PROTECTION RELAY – SCOPE OF WORK**

The scope covers testing, calibration, and functional verification of protection relays to ensure accurate fault detection, reliable system protection, and seamless communication with control infrastructure.

## **SERVICES**

- Functional testing and calibration of numerical and electromechanical relays
- Secondary injection testing for Overcurrent, Earth Fault, and Differential protection schemes
- Verification of tripping logic, protection settings, and coordination curves
- Communication setup for IEC 61850, Modbus, and other supported protocols
- SCADA signal verification for accurate event mapping and remote monitoring
- Trip circuit continuity and auxiliary contact health check
- Event log and disturbance record analysis for fault traceability
- Generation of detailed periodic test and maintenance reports



# ELECTRICAL ANNUAL MAINTENANCE

## – FACTORY SERVICES

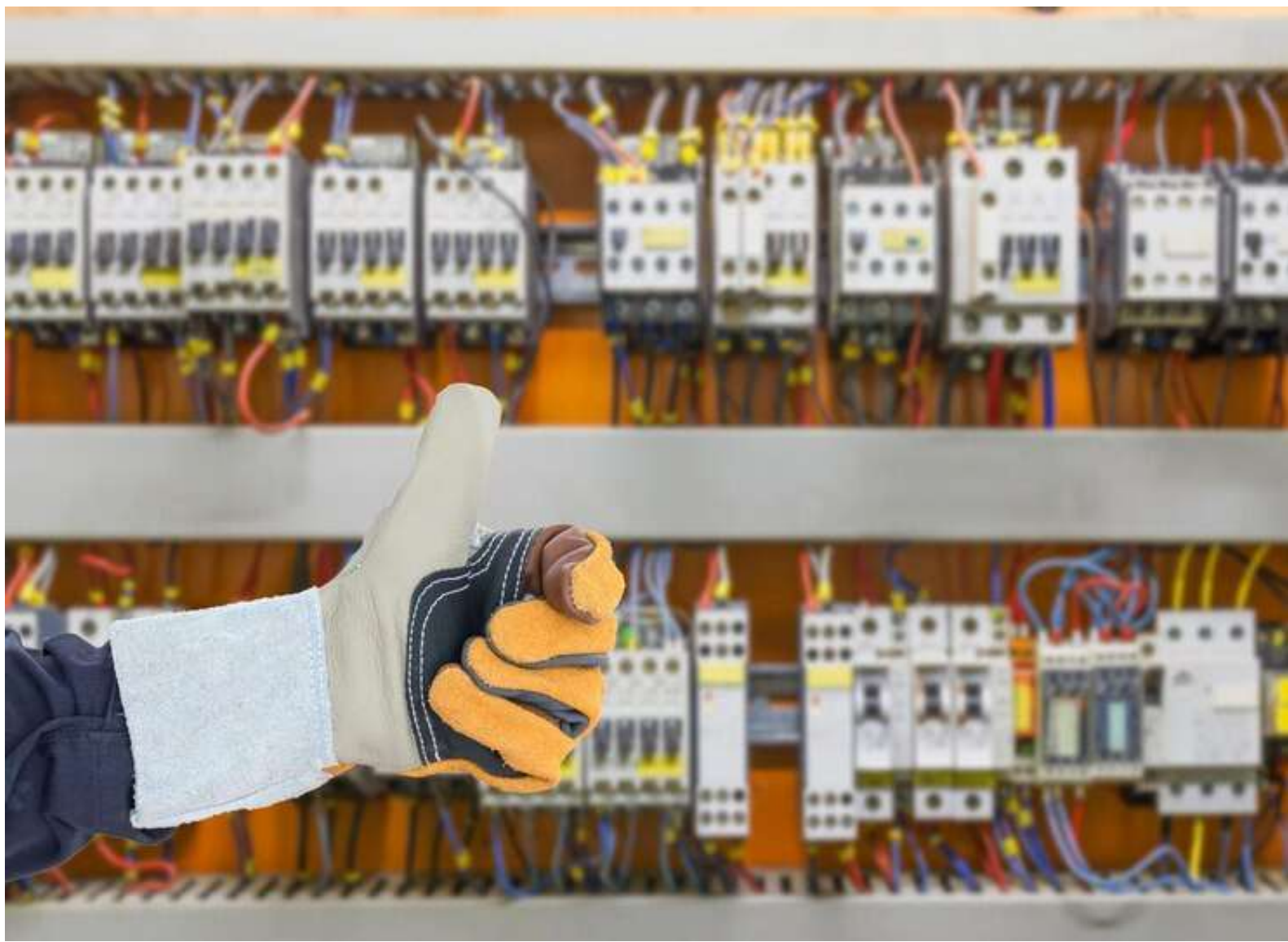
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Comprehensive annual inspection, testing, and preventive maintenance of factory electrical infrastructure to ensure safe, efficient, and uninterrupted operations across all critical systems.

### MAINTENANCE SCOPE

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- Annual servicing of transformers, switchgear, DBs, and capacitor banks
- IR thermography of electrical panels, joints, and terminations for hot spot detection
- Earthing system testing, including earth pit and grid resistance measurements
- Preventive maintenance of UPS systems and battery banks
- Power quality analysis to monitor harmonics, transients, and voltage fluctuations
- Energy meter calibration and detailed load study for consumption optimization
- Motor health testing – IR, PI, vibration analysis, and alignment check
- MCC panel servicing with thermal overload relay setting verification
- Functionality check of emergency lighting and general lighting systems
- Backup, health check, and fault log review for PLC, SCADA, and HMI systems
- Evaluation of harmonic filters and capacitor bank performance
- Shutdown planning, safety coordination, and execution support
- Complete documentation, tagging, and reporting of asset health status





## EMERGENCY DIESEL GENERATOR (EDG) – SERVICES

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Comprehensive inspection, testing, and maintenance of Emergency Diesel Generators (EDGs) to ensure uninterrupted backup power during grid outages or emergency conditions.

### SERVICES

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- Preventive and corrective maintenance of diesel generator sets
- Load testing and auto-start simulation for reliability assurance
- Installation, alignment, and commissioning of EDG units
- Testing of control panels, protection relays, and alarm systems
- Fuel system cleaning, filter replacement, and line checks
- Battery testing and maintenance for cold-start readiness



## LV & MV MOTOR SERVICES

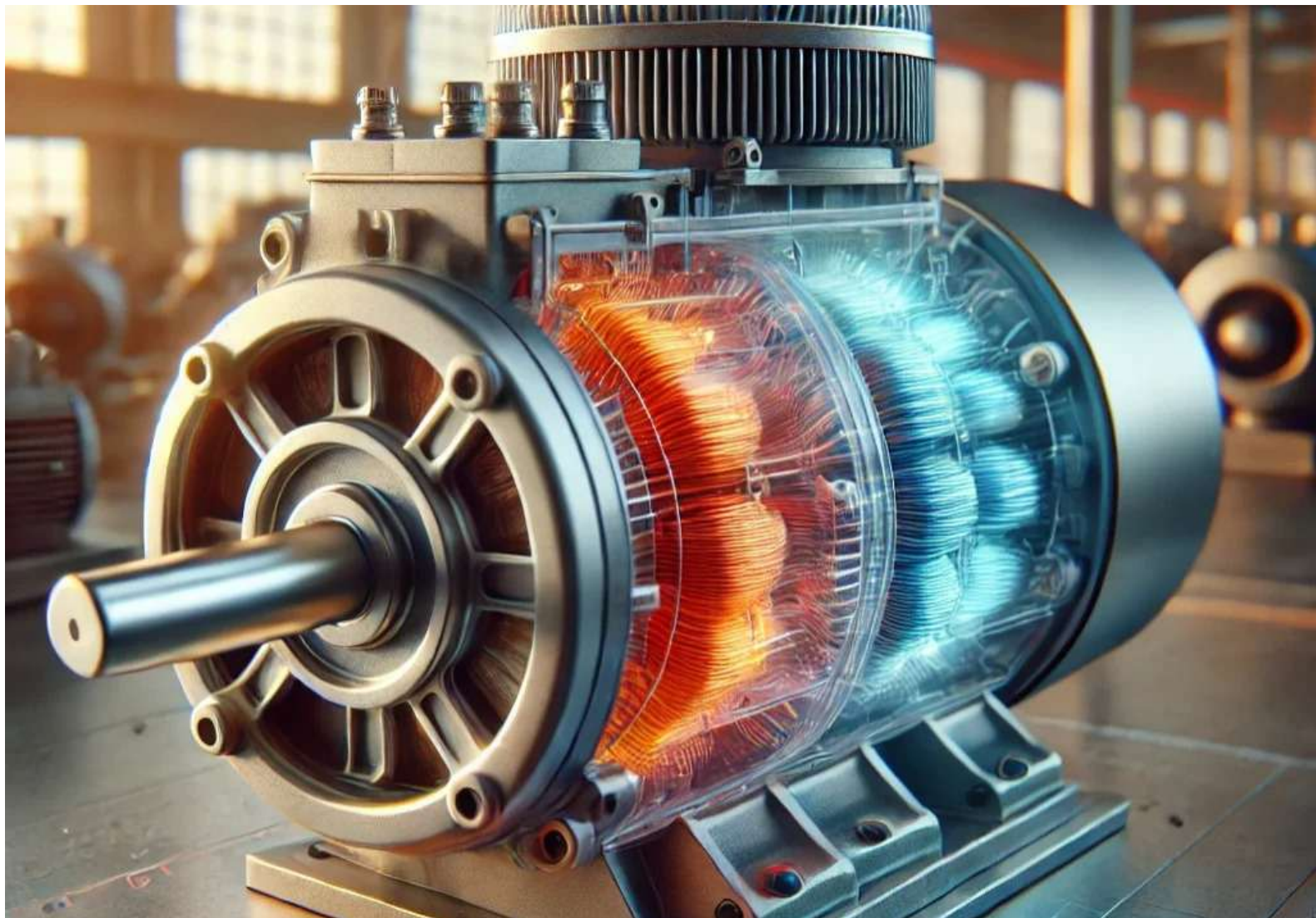
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Complete inspection, testing, maintenance, and overhauling of Low Voltage (LV) and Medium Voltage (MV) motors — ensuring efficient operation, reduced downtime, and extended equipment life.

## MAINTENANCE SCOPE

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- Routine inspection and condition monitoring of motor health
- Comprehensive electrical and mechanical testing
- Motor overhauling, cleaning, and rewinding for performance restoration
- Installation, alignment, and start-up support for new or serviced units
- Vibration analysis and predictive maintenance to detect early faults







## Power Quality Analysis

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Our power quality analysis service ensures your electrical system operates efficiently, reliably, and within compliance standards. Using precision instruments like Fluke Power Quality Analyzers, we identify and diagnose disturbances affecting your system's performance.

## Scope of Work

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- Measurement of voltage, current, frequency, and power factor.
- Detection of harmonics, flicker, sags, swells, and transients.
- Load analysis and balancing recommendations.
- Compliance verification with IEEE/IEC standards.
- Comprehensive power quality report with corrective action plan.

# Thermography Service

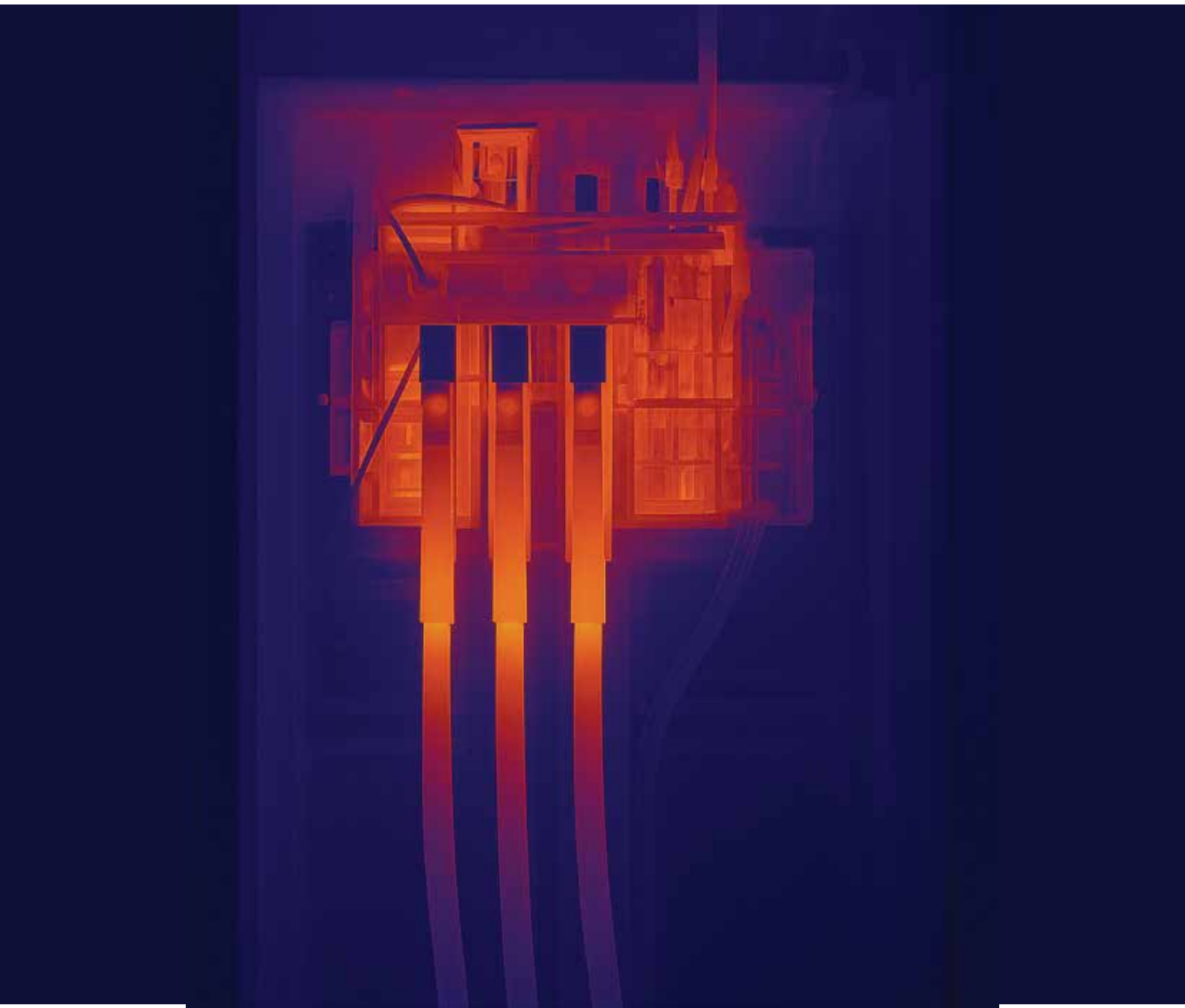
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We provide professional thermal imaging inspections to detect hotspots, loose connections, insulation failures, and overloaded components in electrical systems. Using advanced infrared cameras, we identify potential issues before they cause costly downtime or safety hazards.

## Scope of Work

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- Inspection of transformers, switchgears, panels, and cables.
- Identification of abnormal temperature rise and load imbalances.
- Detailed thermographic report with images and recommendations.
- Preventive maintenance support to reduce unplanned outages.



[www.fissiongrid.com](http://www.fissiongrid.com)

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