



QUDE Power

TECHNICAL CAPABILITIES & SERVICE OVERVIEW

Electrical & Data Infrastructure Specialists

Comprehensive technical documentation for enterprise clients
requiring engineering-grade infrastructure solutions

1995

ESTABLISHED

30

YEARS EXPERIENCE

Level 2

B-BBEE RATING

Executive Summary

UDE Power delivers integrated electrical and data infrastructure for complex development projects across South Africa. Since 1995, we've partnered with major retail chains, industrial facilities, commercial developments, and property developers to deliver enterprise-grade infrastructure solutions.

We specialise in turnkey EPC (Engineer, Procure, Construct) project delivery. Combining electrical engineering capability, technical specification compliance, and comprehensive lifecycle support. Our approach ensures every installation is executed to specification, fully compliant, and delivered on schedule.

This document details our technical capabilities, service methodology, and sector expertise for enterprise clients requiring engineering-grade infrastructure solutions.

Core Technical Capabilities

- UPS Systems: 500VA to 500kVA (double-conversion, long-run, rack-mount, outdoor)
- Diesel Generators: 10kVA to 2000kVA+ with synchronisation and remote monitoring
- Solar & Hybrid Systems: 5kVA to 500kVA+ with lithium/lead-acid storage
- Integrated Power Ecosystems: UPS + Generator + Solar with intelligent management
- Complete electrical installations for new developments, renovations, and fit-outs
- Structured cabling systems from Cat 3 to Cat 7, fibre optic installations
- CCTV, access control, environmental monitoring, cooling systems

Engineering & Compliance

- EPC Turnkey Delivery: Complete Engineer, Procure, Construct project execution
- Load Assessments: Power auditing, system sizing, three-phase load balancing
- Compliance: SANS, ISO 9001/14001/45001, TIA/EIA, OEM specifications
- Certifications: COC, Category 5/6 cabling, commissioning reports, as-built drawings
- 24-Hour Call Centre: Dedicated service coordination desk for SLA clients
- Preventative Maintenance: Scheduled servicing, battery tests, load tests
- Remote Monitoring: Real-time alerts, fuel/battery tracking, predictive maintenance

Proven Sector Experience

RETAIL & BIG-BOX

INDUSTRIAL PLANTS

CORPORATE FACILITIES

MINING OPERATIONS

RESIDENTIAL ESTATES

Typical Clients: Massmart, Checkers, Dis-Chem, Game, Sevens Furniture, Verimark

1. Engineering & Technical Capability

EPC Delivery Methodology

UDE Power delivers all projects using a structured Engineer, Procure, Construct (EPC) approach, ensuring comprehensive project control from initial assessment through to final handover.

Engineering Phase

- Load assessments and power auditing
- System sizing and capacity calculations
- Electrical design and schematic development
- Integration drawings and technical documentation
- Bill of quantities (BOQ) preparation
- Three-phase load balancing calculations
- Phase rotation verification protocols

Procurement Phase

- Equipment specification to design requirements
- OEM-certified components and systems
- Quality assurance and factory testing coordination
- Logistics and delivery management

Construction & Installation Phase

- Site preparation and infrastructure installation
- UPS, generator, solar, and hybrid system integration
- Distribution board upgrades and optimisation
- Earthing and surge protection systems
- Synchronisation of multi-source power systems
- Complete commissioning and performance testing
- Certification and regulatory compliance documentation

Compliance & Standards Framework

All UDE Power installations adhere to national and international standards, ensuring regulatory compliance and technical excellence.

- SANS electrical installation standards (South African National Standards)
- ISO 9001 (Quality Management Systems)
- ISO 14001 (Environmental Management Systems)
- ISO 45001 (Occupational Health & Safety Management)
- TIA/EIA structured cabling standards
- OEM manufacturer specifications and technical requirements

Technical Certifications

Every installation is backed by comprehensive testing and official certification.

- Electrical Certificates of Compliance (COC)
- Category 5 and Category 6 cable certification reports
- Load testing and performance validation documentation
- Commissioning reports and as-built drawings
- Warranty documentation and service schedules

2. Core Infrastructure Solutions

UPS Systems (Uninterruptible Power Supply)

Comprehensive UPS solutions protecting critical infrastructure from power instability, ensuring business continuity and operational resilience.

System Range & Capabilities

- Entry-level UPS units (500VA to 3kVA) for workstations and small systems
- Commercial-grade systems (5kVA to 100kVA) for server rooms and facilities
- Industrial double-conversion systems (up to 500kVA) for mission-critical environments
- Long-run battery solutions for extended backup duration
- Rack-mount and outdoor-rated UPS configurations

Protection & Performance

- Protection from voltage spikes, dips, surges, and brownouts
- Grid instability mitigation and power conditioning
- Seamless transition during power events (zero transfer time)
- Battery health monitoring and predictive maintenance alerts

Outcome: Reliable business continuity, equipment protection, and operational stability.

Generator & Stand-by Power Services

Complete generator solutions for commercial, industrial, and mining applications. Designed for consistent, reliable stand-by power in demanding environments.

Generator Systems

- Commercial and industrial diesel generators (10kVA to 2000kVA+)
- Mining-capable heavy-duty generator systems
- Digital controllers and intelligent auto-changeover systems
- Multi-generator synchronisation and load sharing
- Fuel system integration, ventilation, and civil works
- Acoustic enclosures and environmental compliance

Ongoing Support & Monitoring

- Preventative maintenance schedules and service contracts
- Emergency call-out services and rapid response support
- Remote monitoring of fuel levels, battery health, and system faults
- National multi-site support capability

Outcome: Consistent and reliable stand-by power for business-critical operations.

2. Core Infrastructure Solutions (continued)

UPS & Generator Preventive Maintenance (Pan-African Coverage)

Our UPS and diesel generator maintenance programmes are structured around OEM-aligned preventive maintenance schedules, designed to maximise equipment availability, extend asset life, and reduce the risk of unplanned downtime across mission-critical environments.

Across our African footprint, 12-month service contracts typically include:

- ✓ **One Major Service (Annual):** A comprehensive, full-scope service aligned to manufacturer recommendations, covering detailed inspections, load and performance testing, firmware and control system checks, critical component assessment, consumables replacement (where applicable), and full system health reporting. For generators, this includes engine, alternator, synchronisation systems, and remote monitoring validation. For UPS systems, this includes power electronics, battery systems, bypass paths, and redundancy verification.
- ✓ **One Minor Service (Interim):** An interim inspection and preventive maintenance visit focused on operational integrity, visual and functional checks, parameter verification, alarm review, and early identification of wear or degradation. This service is designed to proactively address risks before they escalate into failures.

All services are delivered by certified technical teams, supported by regional logistics, spares access, and remote monitoring capabilities, enabling consistent service delivery across South Africa and the broader African continent. Service scope, response times, and spares strategies can be scaled to suit single-site deployments or large, multi-country portfolios.

This structured approach ensures predictable operating costs, improved uptime, and defensible compliance with SLA, OHSA, and ISO-aligned maintenance standards, whilst recognising the operational realities of distributed African infrastructure.

Solar & Energy Storage Systems

Commercial photovoltaic and hybrid inverter systems designed to reduce operating expenses and increase resilience during load shedding.

- Commercial PV installations (5kVA to 500kVA+)
- Hybrid inverter systems with grid-tie and off-grid capability
- Lithium-ion and lead-acid battery storage banks
- Scalable configurations for growing energy requirements
- Integration with existing UPS and generator infrastructure

Outcome: Reduced operating expense, increased resilience, and sustainable energy independence.

Hybrid Power Integration

Fully integrated power ecosystems combining solar, UPS, and generator systems for maximum uptime and operational efficiency.

- Intelligent power management and automatic source switching
- Peak shaving and load management strategies
- Battery cycling optimisation for extended lifecycle
- Real-time monitoring and reporting dashboards

2. Core Infrastructure Solutions (continued)

Electrical Infrastructure

Complete electrical installations for new developments, renovations, and facility upgrades.

- Single-phase and three-phase electrical systems
- Distribution board design, installation, and upgrades
- Commercial and industrial lighting systems
- Power reticulation and sub-main installations
- Three-phase load balancing to ensure stable electrical distribution
- Phase rotation verification to protect motors, HVAC, pumps, and compressors
- Full compliance certification on completion

Integrated Systems

Complete installation and integration of security, environmental, and communications systems.

- CCTV surveillance systems and access control
- Environmental monitoring and alerting
- Precision cooling systems for server rooms and critical environments
- Voice and PBX communication systems
- Coordinated installation within project timelines

Data & Network Infrastructure

Structured cabling systems designed and installed to Category 5 and Category 6 performance standards.

- Network cabling (Cat 3, 5e, 6, 6A, 7) for voice and data networks
- Fibre optic installations and testing
- Data racks, cabinets, and cable management systems
- Complete testing and certification to TIA/EIA standards
- End-to-end service from site survey through to commissioning

3. Lifecycle Support & Maintenance

Preventative Maintenance Programmes

Scheduled servicing ensures optimal performance, extends equipment lifecycle, and prevents unplanned downtime.

- UPS system servicing: battery tests, load tests, component diagnostics
- Generator maintenance: oil changes, filter replacements, load bank testing
- Solar inverter servicing: performance analysis, panel cleaning, connection inspections
- Battery system health monitoring and replacement scheduling
- Component diagnostics (fans, capacitors, controllers, contactors)
- Comprehensive lifecycle reporting and documentation

24-Hour Call Centre & SLA Support Desk

For SLA clients, UDE Power operates a dedicated 24-hour call centre and service coordination desk, ensuring continuous support and rapid response for mission-critical operations.

Support Capabilities

- 24/7 fault logging, dispatching, and escalation
- Real-time communication with field technicians and service teams
- Priority response protocols for critical environments
- After-hours and emergency deployment capability
- SLA tracking, compliance reporting, and incident documentation

Outcome: Guaranteed support availability for high-demand, uptime-critical operations across retail, industrial, commercial, and multi-site portfolios.

Remote Monitoring & Diagnostics

Proactive system monitoring enables early fault detection and predictive maintenance.

- Real-time alerts for system faults and performance anomalies
- Battery health and charge cycle tracking
- Generator fuel level monitoring and runtime analysis
- Solar energy production and efficiency monitoring
- Automated service intervention scheduling

Technical Resources & Training

Comprehensive documentation and training ensure clients can operate and maintain systems confidently.

- System operation manuals and user guides
- Configuration and monitoring tools
- Client training on system operation and safety procedures
- As-built drawings and technical documentation

4. Sector Expertise & Applications

UDE Power has proven capability across diverse sectors, each with unique operational pressures. Our approach is engineered specifically for sector requirements.

Retail & Big-Box Environments

- National rollout capability for multi-site retail chains
- Point-of-sale systems and refrigeration protection
- CCTV and security system integration
- Rapid deployment schedules aligned with store opening timelines
- Ongoing support for trading-hour operations

Typical Clients: Massmart, Checkers, Dis-Chem, Game, Sevens Furniture, Verimark

Industrial Plants & Warehouses

- Heavy-duty power systems for production equipment
- Three-phase load balancing for motor-driven machinery
- Environmental monitoring for temperature-sensitive operations
- Backup power for continuous production lines

Mining & Heavy-Duty Applications

- Industrial-grade generator systems for remote operations
- Heavy-duty electrical infrastructure for mining equipment
- Rugged environmental conditions capability

Residential Estates & Developments

- Multi-unit residential electrical and data infrastructure
- Estate-wide backup power and solar integration
- Fibre network installations for connected communities
- Access control and security system integration

Corporate Facilities & Server Rooms

- Mission-critical UPS systems for IT infrastructure
- Precision cooling and environmental controls
- Structured cabling and data centre infrastructure
- 24-hour support for business continuity

5. Commercial Value Proposition

UDE Power delivers tangible commercial value through improved uptime, operational resilience, cost control, and scalability.

1 Improved Uptime & Operational Resilience

Minimised business disruption during power events. Seamless power transitions protecting sensitive equipment. Predictable infrastructure performance under load shedding.

3 Scalability Across Multi-Site Portfolios

Standardised infrastructure specifications for rollout consistency. National service capability across multiple locations. Centralised monitoring and support coordination. Proven project management for phased deployments.

2 Cost Control & Lifecycle Value

Reduced operating expenses through solar energy integration. Extended equipment lifecycle through preventative maintenance. Predictable service costs via structured maintenance contracts. Avoidance of emergency repair premiums.

4 Compliance & Governance

Comprehensive certification and regulatory compliance documentation. Audit-ready installation records and as-built drawings. Level 2 B-BBEE rating supporting transformation objectives. ESG alignment through environmental management frameworks.

National Rollout Capability

- Multi-site project coordination and delivery
- Nationwide service network and support infrastructure
- Standardised quality and compliance across all locations
- Proven track record with major national retail chains

6. Environmental Responsibility & E-Waste Management

UDE Power is committed to environmentally responsible infrastructure delivery and the ethical management of electronic and electrical waste generated during project execution, upgrades, and decommissioning activities.

Responsible E-Waste Handling & Disposal

All redundant, end-of-life, or replaced electrical and electronic equipment (including UPS systems, batteries, cabling, switchgear, ICT hardware, and associated components) is processed through a specialist, ISO-aligned e-waste management partner.

E-Waste Process

- Safe collection, transport, and handling of electronic and electrical waste
- Environmentally sound dismantling, recycling, and recovery of materials
- Zero landfill disposal where recoverable materials exist
- Secure destruction of sensitive electronic components where required

All disposal activities are executed in alignment with internationally recognised environmental and occupational safety frameworks, including ISO 14001 (Environmental Management Systems) and ISO 45001 (Occupational Health & Safety Management Systems), through accredited downstream processes.

Compliance, Risk & ESG Alignment

This approach supports clients' broader corporate responsibility objectives.

- ESG and sustainability reporting requirements
- Corporate governance and risk management obligations
- Environmental compliance and audit readiness
- Responsible supply chain and lifecycle asset management

By integrating compliant e-waste disposal into our project methodology, UDE Power ensures that infrastructure upgrades and decommissioning activities meet not only technical and operational standards, but also modern environmental and social responsibility expectations.

7. Enterprise-Level Capability Summary

UDE Power delivers complete infrastructure solutions for enterprise clients requiring engineering-grade technical capability, compliance-certified delivery, and comprehensive lifecycle support.

Core Capabilities

- Full UPS suite: supply, integration, and long-run backup (500VA to 500kVA)
- Diesel generator systems with advanced controls and synchronisation
- Hybrid solar energy systems (5kVA to 500kVA+)
- EPC turnkey engineering and project delivery
- Load audits, power analysis, and compliance-driven design
- Three-phase load balancing and phase rotation verification
- Fully integrated power ecosystems (UPS + Generator + Solar)
- Preventative maintenance, remote monitoring, and structured SLAs
- 24-hour call centre and service coordination for SLA clients
- Proven multi-sector delivery: retail, industrial, corporate, commercial
- National rollout capability and multi-site coordination
- Level 2 B-BBEE rating supporting transformation objectives

Contact UDE Power

For technical enquiries, project discussions, or service support, our team is available to assist with your infrastructure requirements.



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