

Dynamic Phase Swapper (DPS)

Service Description & Scope of Services

Company Overview

Our organization provides Dynamic Phase Swapper (DPS) as a comprehensive Distribution Network Optimization Service designed to improve the reliability, efficiency, and power quality of low-voltage electricity distribution systems.

Rather than supplying only hardware, we deliver an end-to-end solution including site assessment, installation, commissioning, monitoring, optimization, maintenance, and technical support.

Service Objective

The Dynamic Phase Swapper (DPS) Service aims to automatically detect and correct phase imbalance in low-voltage distribution networks by continuously monitoring transformer loading and intelligently transferring selected consumer connections between phases.

The service helps utilities reduce technical losses, improve voltage quality, extend transformer life, and minimize manual maintenance.

Scope of Services

1. Site Survey & Feasibility Study

- Distribution transformer inspection
- Feeder analysis
- Consumer load assessment
- Existing phase loading analysis
- Pole and infrastructure inspection
- Installation planning
- Project feasibility report

2. System Design

- DPS deployment planning
- DTMS placement design
- Pole-wise swapper planning
- Communication network design
- Cloud architecture planning
- Electrical protection design
- Wiring and installation drawings

3. Supply of Equipment

- Dynamic Phase Swapper (DPS) Units
- Distribution Transformer Monitoring System (DTMS)
- Voltage and current sensing modules
- Communication modules
- Industrial control panel

- Switching devices
- Protection equipment
- Monitoring accessories

4. Installation & Commissioning

- Mechanical installation
- Electrical wiring
- Sensor installation
- Controller configuration
- Communication setup
- Safety verification
- Functional testing
- Commissioning report

5. Cloud Integration

- Secure device connectivity
- Real-time monitoring dashboard
- Data logging
- Alarm management
- Event recording
- User management
- Remote diagnostics

6. Intelligent Phase Balancing Service

- Phase voltage monitoring
- Consumer load monitoring
- Transformer load monitoring
- Neutral current monitoring
- Automatic phase balancing
- Intelligent phase selection
- Safe automatic switching
- Continuous optimization

7. Preventive Maintenance

- Visual inspection
- Electrical inspection
- Contactor health check
- Tightening of terminals
- Sensor calibration verification
- Firmware updates
- Functional testing
- Communication testing
- Safety inspection

8. Corrective Maintenance

- Remote diagnostics
- Fault identification

- Component replacement
- Wiring correction
- Software troubleshooting
- Hardware repair
- Emergency site visit (as per SLA)
- System restoration

9. Software & Firmware Support

- Firmware upgrades
- Algorithm improvements
- Security updates
- Performance optimization
- Bug fixes
- Configuration backup and restoration

10. Remote Monitoring (24×7)

- Device status monitoring
- Transformer health monitoring
- Phase imbalance monitoring
- Communication status
- Alarm notifications
- Fault detection
- Historical data analysis

11. Reporting Services

- Daily operational summary
- Monthly transformer health report
- Phase balancing report
- Switching event history
- Neutral current analysis
- Voltage profile report
- Energy performance report
- Technical loss observations
- System uptime report

Benefits of the Service

- Automatic phase balancing
- Reduced transformer overloading
- Lower neutral current
- Improved voltage profile
- Reduced technical losses
- Increased transformer life
- Reduced field maintenance
- Faster fault response
- Remote monitoring capability
- Improved network reliability

- Scalable deployment across feeders

Target Customers

- State Electricity Distribution Companies (DISCOMs)
- Municipal Electricity Utilities
- Industrial Distribution Networks
- Smart City Projects
- Renewable Energy Distribution Networks
- Large Residential Townships
- Commercial Power Distribution Systems

Service Level Agreement (Indicative)

Service	Response Time
Remote Technical Support	Within 4 Hours
Critical Fault Response	Within 24 Hours
On-Site Engineer Visit	Within 48 Hours (subject to location)
Preventive Maintenance	Quarterly / Half-Yearly (as agreed)
Software & Firmware Updates	As Released
Cloud Monitoring	24×7

Customer Deliverables

Upon deployment, the customer receives:

- Installed and commissioned DPS system
- System documentation
- Electrical drawings
- User manual
- Operator training
- Warranty documentation
- Maintenance schedule
- Installation and commissioning report
- Test and inspection reports

Warranty & Support

The Dynamic Phase Swapper Service includes comprehensive post-installation support covering technical assistance, software maintenance, remote diagnostics, and scheduled preventive maintenance. Warranty terms and annual maintenance contracts (AMC) can be customized based on customer requirements.

Vision

The Dynamic Phase Swapper Service is designed to support the modernization of electricity distribution networks by enabling intelligent, automated, and data-driven phase balancing. The solution contributes to improved power quality, optimized asset utilization, reduced operational costs, and enhanced reliability, aligning with the objectives of smart grid and distribution automation initiatives.