SuperTAPP SG
VOLTAGE CONTROL
FOR SMART GRID
SuperTAPP SG is the latest realisation of the market-leading AVC relay for transformer and tap changer management. SuperTAPP SG provides practical options to deliver a Smart Grid approach for distributed generation, network interconnection and reconfiguration, flexible and highly variable loads, and many other scenarios which cause challenges for voltage control.

**KEY FEATURES**

- Complete voltage control package for Smart Grid
- Basic voltage control for standard applications
- Advanced solutions for distributed generation
- Accommodates reverse power flows, diverse feeder load profiles and variable power factors
- Integrated control panel with real control switches
- Comprehensive SCADA protocols including IEC 61850, DNP3 and IEC 60870
- PC software for management of entire SuperTAPP SG fleet, including settings, tap changer operation, relay and tap-changer diagnostics and historical data

**KEY BENEFITS**

**For network operation**
- Fewer customer complaints
- Reduce losses

**For connection of generation**
- Maximise voltage headroom and reduce generator curtailment
- Avoid complex ANM schemes for voltage management
- Reduce connection costs for DG

**For asset management and replacement**
- Deliver asset health indices at lower cost
- Reduce tap changer maintenance costs
- Reduce effects of tap changer failure and risk of damage

**For reinforcement projects**
- Deliver reinforcement plan at reduced cost
- Easy to install and commission
- Supports use with all types of transformer, tap changer and scheme
Technical Overview

SuperTAPP SG is designed with a single purpose in mind: excellent control of network voltages. The third generation of SuperTAPP, the SG is designed to handle the many complex scenarios that a Smart Grid creates – multiple DG units, variable power factors, non-standard feeders, reverse power flows, capacitor banks and more. The substation operator is presented with an intuitive control panel which is easy to use, and makes engineering simple. SuperTAPP SG has communications capability with IEC 61850, DNP3 and IEC 60870 and more for complete ADMS integration.

SuperTAPP SG is available in three flavours which, with a withdrawable case, are easily upgradeable without disturbing existing wiring.

Basic
The ‘Basic’ version is designed with all the hardware and functions required to control a standard transformer installation at a multi-transformer substation. It is designed as the direct inheritor of the original SuperTAPP and MicroTAPP technologies and SuperTAPP n+ basic.

Advanced
A software upgrade is all that is required for the ‘Advanced’ version, which then enables functions suitable for advanced applications, including double secondary windings, difficult situations with differing feeder load profiles, and handling distributed generation including reverse power flows. This version includes all functions of the current SuperTAPP n+ advanced.

Ultra
The ‘Ultra’ version includes extensive current inputs to enable monitoring of the complete substation, and the ability to include these measurements within the control loop. The SuperTAPP SG Ultra therefore represents the ideal substation front end to a Smart Grid control system.

All SuperTAPP SG relays come with a front panel USB port for settings and data download. Up to one serial and two Ethernet rear communication ports can be available to give integrated communications to IEC 61850, DNP3 or IEC 60870 out of the box, with no external converters required.

Additional hardware modules can be added to the relay for further plant interface and alarm I/O, mA loop inputs and outputs for tap position indication and voltage and current measurements.
Contact
Fundamentals Ltd can assist with all applications concerning voltage control of electrical networks:

• Design and engineering
• Panel/cubicle build
• Installation
• Commissioning
• Site surveys
• Technical support
• Troubleshooting
• Consultancy
• Power system analysis
• Generation connection assessment