# POWER CONTROL & PROTECTION SYSTEMS

With an extensive range of products for the control and protection of power generation and distribution, Woodward SEG has acquired a unique worldwide reputation. This modular range of products provides clients with a wide range of solutions for perfect generator and power distribution protection.

DSF technologies provide products, after sales service, 24 hour delivery, and on-site technical help throughout France.





## «All-in-one»



SYSTEM LINE - Comprehensive protection for medium/high voltage systems up to 132kV.

Variable control and protection systems with 18 protection functions for feeders, lines and Busbar.

Maximum compatibility: any medium/high voltage system on the market, universal power supply and inputs/outputs, 1 to 5A current transformers, universal interface.

Data logging with time stamp: logging of all electrical measurements, easy access to statistics, analysis of faults identified in the measurements.

## 4th generation relays

**HIGHPROTEC®** - Protection with dual-core processors

Next generation protection relays. HighProTec is designed to adapt to any type of voltage, for currents of 1 to 5A, alternating or direct. A high tech product with IP54 protection and intuitive use.



Comprehensive protection: inputs/outputs, voltages, currents, frequencies, mains decoupling, engine, distance, transitory earth faults, high impedance, line/engine/transformer differential.

Smart View & Data Visualizer: simple programming and configuration (adaptable nominal voltage and input threshold), data gathering and analysis, visualisation of analogue and digital measurements at a rate of 32 samples per cycle, coherence check for better prevention.

#### Advanced functions

**HIGH TECH LINE** - Safe, precise, with proven reliability.

This highly reputed range covers all areas of time current in low and medium voltage applications, from engine and generator protection to high quality differential protection.



Flexible operation: individual or combined relays, two series of parameters, free configuration of the output relays (matrix), protection against breaker failure, display of primary values, Modbus RTU protocol, compact case for integration on a 19" rack.

Fault processing: logging of interference and faults, triggered by digital inputs.

Options: SCADA communication interface, settings and fault analysis software.



## Self powered protection

#### **WI LINE** - Power supply taken from current transformers.

Compatible with all breakers on the market. Since it does not require auxiliary power, it is well suited for use in self-sustaining transfer and distribution stations, local grids and ring-main-units.



Continuous intelligent power supply: time current protection (two-stage, independent (DEFT) and dependent (INV) time over-current protection or special characteristic curves), power supply to relays from the current transformers, low energy triggering, integrated energy storage, standard ratios available for transformers.

*Options*: earth current protection, redundant power supply, display of measurements in real time, free output signal configuration, RS485 communication, on-line communication via WI-Soft, error memory reading.

# Mono-function relay

#### **PROFESSIONAL LINE** - With PC communication and operation.

All common protection functions for low and medium voltage applications gathered in one compact and easy to install unit. Complying with several constraints (CRI 60255 norm, vibrations, climates), Professional line is well suited to both static and mobile applications.



Reliability and adaptation: CMS technology, microprocessors for precise data processing, numerous standard characteristic curves, complementary interfaces and software, setup modification protection.

*Ease of installation:* easy selection of nominal voltages and frequencies, universal power supply for use with AC or DC.

*Ease of setting:* Dip switches and potentiometers (PC setup also available).

#### **BASIC LINE** - Entry level range.



Even at their most basic, Woodward SEG relays have micro-controllers, high quality casings for DIN rail mounting, and short circuit protected connectors (500A/1s).

Voltage, frequency, dephasing, directional power, mains decoupling relays...

# Battery chargers

#### **BL 18 et BL20** - Chargers for acid batteries.

These products can be used as simple battery chargers or as a stable power supply during battery maintenance or replacement.



- For 12 to 24 volt batteries, 230 to 530 volt power supply, 18 or 20A current.
- · Certifications: EN 50081-1 / EN50082-2 / VDE 0875 / T11 / En 55011 class B.
- · Over-Load and short circuit protected, compact and light (2 to 3.8kg), DIN rail compatible.