Distributed busbar protection
Relion® REB500 Ver. 8.10

Main features
• Low-impedance busbar protection
• Sub cycle performance
• High functional reliability with
  – Stabilized differential current
  – Directional current comparison
• Low CT performance requirements
• High through-fault stability even in case of CT saturation
• Neutral current measurement for impedance-grounded networks
• No switching of CT circuits
• Flexible solutions at system extension
• Extensive self-supervision
• Cyber security to support
  – User Access Management
  – User Activity Logging
  – Centralizes Account Management

Installation
• Distributed protection solution with IEDs close to the feeders, with short connections to CTs, isolators, circuit breakers, etc.
• Centralized protection solution with IEDs in one cubicle
• Fiber-optic connections between central unit and bay unit
• Interference-proof data transfer with up to 2'000 m length

Scalability
• Up to 60 feeders (bay units)
• 32 differential zones

Most important back-up protection functions
• Breaker-failure protection
• End fault protection
• Definite time overcurrent protection
• Breaker-pole discrepancy
• Current release criteria
• Voltage release criteria
• Breaker-pole discrepancy
Logic
- Binary logic and timer in the bay unit

Monitoring
- Event recorder with a sampling rate of 1 ms
- Fault recorder with a sampling rate of 4’000 Hz

Measurements
- Relevant analogue measured values
  - current
  - voltage
  - differential current
- Currents in all bays
- Busbar through-going currents

Communication
- IEC 60870-5-103
- IEC 61850-8-1 Edition 1
- IEC 61850-8-1 Edition 2
- IEC 62439-3 Parallel Redundancy Protocol

Tool
- HMI500 HMI500 Operator
- HMI500 Configurator
- PCM600 2.6 Latest Rollup

Hardware
- Central 1 and 5 A rated currents transformers
- Supply voltages between 48 V DC and 250 V DC
- Nominal frequencies of 50, 60 Hz
- Redundant power supply for Central Unit

Technical details are available in the REB500 Product Guide.

Note:
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