ekorsys units: protection, telemanagement & communication

ekor.rps-tcp
Multifunctional protection unit for primary distribution substation

Reliable innovation. Personal solutions.
Applications

Primary distribution substations:
» Utilities
» Large infrastructures
» Airports
» Railways
» Electrical power stations

Most notable features
» Cubicle, relay and current transformer assembly validated in power tests up to 20 kA.
» Solution engineered at factory (location, wiring, transformers and relay installed are factoryinstalled).
» Protection and control of different CPU and power supplies.
» Protection and control in a single unit.
» Integrates the factory-installed protection and current transformers.
» Compatible with the integrated control automation system.

Technical Characteristics

Power Supply Options
- AC [Vac]: 125 / 220
- DC [Vdc]: 24 / 48
- Frequency [Hz; Hz]: 50; 60 ±1%

Digital inputs
- Extended (low) [Vcc]: 18 to 160
- Extended (high) [Vcc]: 86 to 280

Analog inputs
- Current: 5
- Voltage: 4

Digital outputs
- Protection Inputs: 8+9
- Outputs: 7+7
- Control Inputs: 48
- Outputs: 24

Communications
- Ports: RS-232, RS-485, FOC

Protection ekor.rps-dd and ekor.rps-dd
- Phase overcurrent (3 x 50/51)
- Earth overcurrent (50N/51N)
- Current unbalance/negative sequence current (46-46FA)
- Breaker failure (50BF)
- 2nd harmonic restraint
- Sobreintensidad en neutro sensible (50Ns/51Ns)
- Ultrasensitive earth overcurrent (3 x 67)
- Directional earth fault (67N)
- and sensitive earth fault (67Ns)

Tests

Electrical
- ENV 50204
- IEC 50255-5
- IEC 60870-2-1
- IEC 61000-4-3
- IEC 61000-4-5
- IEC 61000-4-8
- IEC 61000-4-12

Environmental
- IEC 60068-2-1
- IEC 60068-2-2
- IEC 60068-2-3
- IEC 60068-2-14

Mechanical
- IEC 60255-21-1
- IEC 60255-21-2

Isolated earth directional function (67NA)
Voltage restrained overcurrent (51V)
Fuse failure
Thermal image (49)

Additional protection ekor.rps-dd
- Maximum frequency / minimum frequency / frequency-derived (81M / 81m / 81R)
- Directional power (32)
- Phase overvoltage / phase undervoltage / (3 x 59 / 3 x 27 / 47)
- negative sequence overvoltage
- Neutral overvoltage (59N/64)

Control functions
- Three-phase recloser (79)
- Recloser for single-phase trips due to overcurrent (79)
- Trip/closure coil supervision (74)
- Recloser for restart after trip due to frequency trip (79)
- Synchrocheck (25)
- Protection status self-diagnosis

Measurements
- Phase, neutral and sensitive neutral currents
- Power factor
- Simple and compound voltages
- Current maximeter
- Energies
- Inverse sequence
- Harmonic distortion (THD)
- Powers
- Oscillography

Data acquisition
- Chronological event log
- History log of maximum and minimum measurements
- Chronological fault log
- Oscillography