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SIPROTEC 7VK87

Breaker management device

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Description

The SIPROTEC 7VK87 circuit breaker management device has specifically been designed for circuit-breaker management. With its modular structure, flexibility and the powerful DIGSI 5 engineering tool, the SIPROTEC 7VK87 device offers future-oriented system solutions with high investment security and low operating costs.

Main function	Automatic reclosing, synchrocheck, circuit breaker failure protection
Tripping	1-pole and 3-pole or 3-pole
Inputs and outputs	12 predefined standard variants with 4/4 or 8/8 current/voltage transformers, 5 to 31 binary inputs, 8 to 46 binary outputs
Hardware flexibility	Flexibly adjustable I/O quantity structure within the scope of the SIPROTEC 5 modular system
Housing width	1/3 x 19 inch to 2/1 x 19 inch

Applications

- Automatic reclosing after 1/3-pole tripping
- Synchrocheck before reclosing
- Circuit-breaker failure protection
- Also used in switchgear with breaker-and-a-half layout configuration
- Backup overcurrent and voltage protection
- Protection data communication over different distances and physical media, such as optical fiber, two-wire connections, and communication networks
- Phasor Measurement Unit (PMU)



SIPROTEC 7VK87 (housing width: 1/3 x 19" to 2 x 19")

Functions

DIGSI 5 permits all functions to be configured and combined as required.

- Automatic reclosing function and synchrocheck for line protection applications with 1-pole and 3-pole tripping
- Circuit-breaker failure protection for 1-pole and 3-pole tripping
- Control, synchrocheck and switchgear interlocking protection
- Voltage controller for transformers
- Arc protection
- Voltage protection

Efficient and modular

- Graphical logic editor to create powerful automation functions in the device
- Single line representation in small or large display
- Integrated electrical Ethernet RJ45 for DIGSI 5 and IEC 61850 (reporting and GOOSE)
- Up to 4 optional pluggable communication modules, usable for different and redundant protocols (IEC 61850, IEC 60870-5-103, IEC 60870-5-104, Modbus TCP, DNP3 serial and TCP, PROFINET IO)
- Serial protection data communication via optical fibers, two-wire connections and communication networks (SHD networks, MPLS networks, for example using IEEE C37.94, and others), including automatic switchover between ring and chain topology
- Redundancy protocols PRP and HSR
- Cyber security to NERC CIP and BDWE Whitepaper requirements
- Phasor measurement unit (PMU) for synchrophasor measured values and IEEE C37.118 protocol
- Time synchronization using IEEE 1588
- Powerful fault recording (buffer for a max. record time of 80 sec. at 8 kHz or 320 sec. at 2 kHz)
- Auxiliary functions for easy tests and commissioning
- Flexibly adjustable I/O quantity structure within the scope of the SIPROTEC 5 modular system

Benefits

- Compact and cost effective breaker management device
- High-performance features guarantee safety
- Data security and transparency throughout the entire life cycle of the system save time and reduce costs
- Clear and easy-to-use devices and software thanks to user-friendly design
- Increased quality and reliability of the engineering process
- High degree of overall safety and security based on thorough implementation
- High-performance communications components guarantee safe and effective solutions
- Full compatibility with IEC 61850 Edition 1 and 2
- Future proof system solutions provide high investment security and low operation costs



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For all products using security features of OpenSSL, the following shall apply:

This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (www.openssl.org), cryptographic software written by Eric Young (eay@cryptsoft.com) and software developed by Bodo Moeller.