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SIPROTEC 7UT82

Two-winding transformer differential protection

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Description

The transformer differential protection SIPROTEC 7UT82 is a universal protection, control and automation device on the basis of the SIPROTEC 5 system. It is especially designed for the protection of two winding transformers. It is the main protection for the transformer and contains many other protection and monitoring functions. The additional protection functions can also be used as backup protection for protected downstream objects (such as cable or lines).

The device supports all SIPROTEC 5 system characteristics. It enables future oriented system solutions with high investment security and low operating costs.

| | |
|-------------------------|---|
| Main function | 1 differential protection function (standard or auto transformer) with additional stabilization; up to 2 restricted ground-fault protection functions |
| Usable measuring points | 2 x 3-phase current measuring points, 2 x 1-phase current measuring points |
| Inputs and outputs | 1 predefined standard variant with 8 current transformers, 7 binary inputs, 7 binary outputs |
| Hardware flexibility | The 1/3 base module is available with the IO103 module; it is not possible to add 1/6 expansion modules, available with large and small display |
| Housing width | 1/3 x 19 inches |



Transformer differential protection SIPROTEC 7UT82 (1/3 x 19")

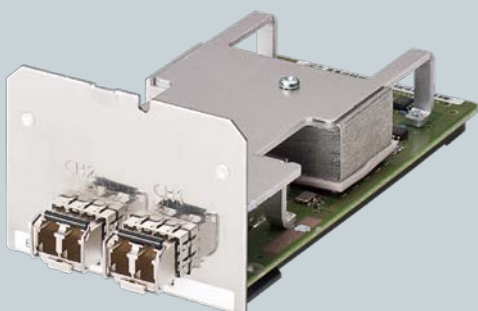
Functions

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

- Transformer differential protection for two-winding transformers with versatile, additional protection functions
- Transformer differential protection for phase-angle regulating transformers of the single core type
- Universal usability of the permissible measuring points
- Applicable from average up to extra-high voltage
- Protection of standard power transformers, auto transformers and motors
- Increased sensitivity with near-neutral-point ground faults through a separate restricted ground-fault protection

Compact and efficient

- Flexible adaptation to the transformer vector group
 - Controlling closing and overexcitation processes
 - Safe behavior in case of current-transformer saturation with different degrees of saturation
 - Adaptive adaptation of the operate curve to the transformer tap position
 - Arc protection
 - 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 2 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 (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
 - 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
- Benefits:**
- Compact and low-cost transformer differential protection
 - Safety due to powerful protection functions
 - Data security and transparency over the entire lifecycle of the plant save time and money
 - Purposeful and simple operation of the devices and software thanks to user-friendly design
 - Increased reliability and quality of the engineering process
 - High safety due to a consistent implementation of safety and security
 - Powerful communication components ensure safe and effective solutions
 - Full compatibility between IEC 61850 Editions 1 and 2
 - Highly available Ethernet communication due to integrated Ethernet redundancy protocols PRP and HSR



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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.