SIEMENS

SIPROTEC 7UT82

Two-winding transformer differential protection

www.siemens.com/siprotec

Description

The SIPROTEC 7UT82 transformer differential protection has been designed specifically 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 subsequent protected objects (such as short cables and lines, reactance coil (shunt reactors)). The modular expandability of the hardware supports you in this process. With its modular structure, flexibility, and the high-performance DIGSI 5 engineering tool, SIPROTEC 7UT82 offers future-oriented solutions for protection, control, automation, monitoring, and Power Quality – Basic.

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 × 19 inches

Applications

- Protection of special transformers (phase shifter, FACTS and converter transformers, arc furnace transformers, HVDC transformers)
- Backup protection for motor and generator differential protection applications
- For protection of short cables and lines

SIPROTEC 7UT82 Transformer Differential Protection (1/3 device = standard variant W1)

Functions

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

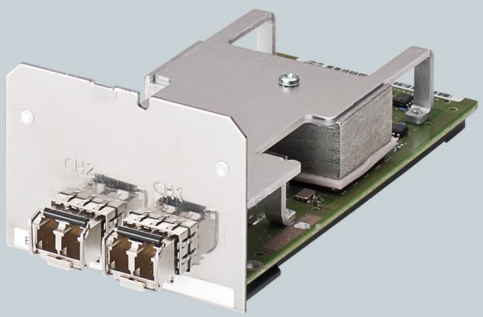
- Transformer differential protection for two-winding transformers with versatile, additional protection functions
- Transformer differential protection for phase-angle regulating transformers of the single core type
- Universal usability of the permissible measuring points
- Applicable from average up to extra-high voltage
- Protection of standard power transformers, auto transformers, short lines, cables, shunt reactors 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 61850-8-1, 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
- PQ-Basic: voltage unbalance; voltage changes: overvoltage, dip, interruption; TDD, THD and Harmonics
- Reliable data transmission via PRP and HSR redundancy protocols
- Extensive cybersecurity functionality, such as role-based access control (RBAC), protocolling security-related events, signed firmware or authenticated network access IEEE 802.1X
- Simple, fast and secure access to the device via a standard Web browser to display all information and diagnostic data, vector diagrams, single-line and device display pages
- Time synchronization using IEEE 1588
- High-performance fault recording (buffer for a max. record time of 80 s at 8 kHz or 320 s at 2 kHz)
- Auxiliary functions for simple tests and commissioning.

Benefits

- Compact and low-cost transformer differential protection
- Safety due to powerful protection functions
- Purposeful and easy handling of devices and software thanks to a user-friendly design
- Cybersecurity in accordance with NERC CIP and BDEW Whitepaper requirements
- Highest availability even under extreme environmental conditions by standard coating of the modules
- Full compatibility between IEC 61850 Editions 1. 2.0 and 2.1



Siemens

Smart Infrastructure
Electrification & Automation
Mozartstraße 31 C
91052 Erlangen,
Germany

For the U.S. published by Siemens Industry Inc.

100 Technology Drive
Alpharetta, GA 30005
United States

Customer Support: http://www.siemens.com/csc