SIPROTEC 7SK80

Motor Protection

Description

The SIPROTEC 7SK80 is a multi-functional motor protection relay. It is designed for protection of asynchronous motors of all sizes. The relays have all the required functions to be applied as a backup relay to a transformer differential relay.

The SIPROTEC 7SK80 features "flexible protection functions". Up to 20 additional protection functions can be created by the user. Therefore protection of change for frequency or reverse power protection can be realized, for example.

The relay provides circuit-breaker control, further switching devices and automation functions. The integrated programmable logic (CFC) allows the user to add own functions, e.g. for the automation of switchgear (interlocking). The user is also allowed to generate user-defined messages.

Applications

Line protection
SIPROTEC 7SK80 units can be used for line protection of high and medium-voltage networks with grounded, low-resistance grounded, isolated or a compensated neutral point.

Transformer protection
The SIPROTEC 7SK80 device provides all the functions for backup protection for transformer differential protection. The inrush suppression effectively prevents unwanted trips that can be caused by inrush currents.

Hardware

- 4 current transformers
- 0 / 3 voltage transformers
- 3 / 7 binary inputs (thresholds configurable using software)
- 5 / 8 binary outputs (2 changeover)
- 0 / 5 RTD inputs
- 1 life contact
- Pluggable current and voltage terminals.

SIEMENS

Highlights

- Pluggable current and voltage terminals

- Binary input thresholds settable using DIGSI (3 stages)

- Secondary current transformer values (1 A / 5 A) settable using DIGSI

- 9 programmable function keys

- 6-line display

- Buffer battery exchangeable from the front

- USB front port

- 2 additional communication ports

- Integrated switch for low-cost and redundant optical Ethernet rings

- Ethernet redundancy protocols RSTP, PRP and HSR for highest availability

- Relay-to-relay communication through Ethernet with IEC 61850 GOOSE

- Millisecond-accurate time synchronization through Ethernet with SNTP (over Port A or Port B)

- Number of binary inputs and binary outputs by connection from up to two SICAM I/O Units extendable

Functions

- Intermittent ground fault protection

- Directional intermittent ground fault protection (67Ns)

- Overcurrent protection, voltage controlled (51V)

- Restart inhibit (66/86)

- Undervoltage/overvoltage protection (27/59)

- Forward-power, reverse-power protection (32)

- Power factor (55)

- Overfrequency/underfrequency protection(81O/U)

- Circuit-breaker failure protection (50BF)

- Phase-balance current protection (negative-sequence protection) (46)

- Unbalance-voltage protection and/or phase-sequence monitoring (47)

- Start-time supervision (48)

- Lockout (86)

- Rate-of-frequency-change protection (81R)

- Rate-of-voltage-change protection (27R/59R)