

Transformer Protection SIPROTEC 7UT613

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|---------------------|----------|-----------|
| Product description | Variants | Order No. |
|---------------------|----------|-----------|

**Digital differential protection relay
for transformers, generators,
Motors, small busbars
and short lines**

Backlit, alphanumeric display with four lines, 14 programmable LEDs, navigation buttons, function buttons, number block.

Housing, binary inputs and outputs, measuring transducer
Housing 1/2 19", 5 BI, 8 BO, 1 Life contact, 12XI, 1X/EE, 4XU

Current transformer : I_N

1 A
5 A

Auxiliary voltage (power supply, signaling voltage)

DC 24 V to 48 V, trigger level 19 V
DC 60 V to 125 V, trigger level 19 V
DC 110 V to 250 V, AC 115/230 V, trigger level 88 V
DC 110 V to 250 V, AC 115/230 V, trigger level 176 V

Construction

Surface-mounting housing, terminals on top and bottom
Flush-mounting housing, plug-in terminal (2/3 pin connector)
Flush-mounting housing, screw-type terminal (direct connection/ring-type cable lugs)

Region-specific default settings/

function versions and language settings

Region world, IEC/ANSI,
language German (language changeable)¹⁾
Region world, IEC/ANSI,
language English (language changeable)¹⁾
Region world, IEC/ANSI
language US-english (language changeable)²⁾
Region world, IEC/ANSI
language French (language changeable)¹⁾
Region world, IEC/ANSI
language Spanish (language changeable)¹⁾

System port (on rear of device) Port B

No system port
IEC 60870-5-103 Protocol, electrical RS232
IEC 60870-5-103 Protocol, electrical RS485
IEC 60870-5-103 Protocol, optical 820 nm, ST-connector
Further protocols see supplement L

PROFIBUS DP slave, electrical RS485
PROFIBUS DP slave, optical 820 nm, double ring, ST-connector
Modbus, electrical RS485
Modbus, optical 820 nm, ST-connector
DNP3.0, electrical RS485
DNP3.0, optical 820 nm, ST-connector
IEC 61850, 100 Mbit Ethernet, electrical, double
IEC 61850, 100 Mbit Ethernet, optical

Only Port C (Service interface)

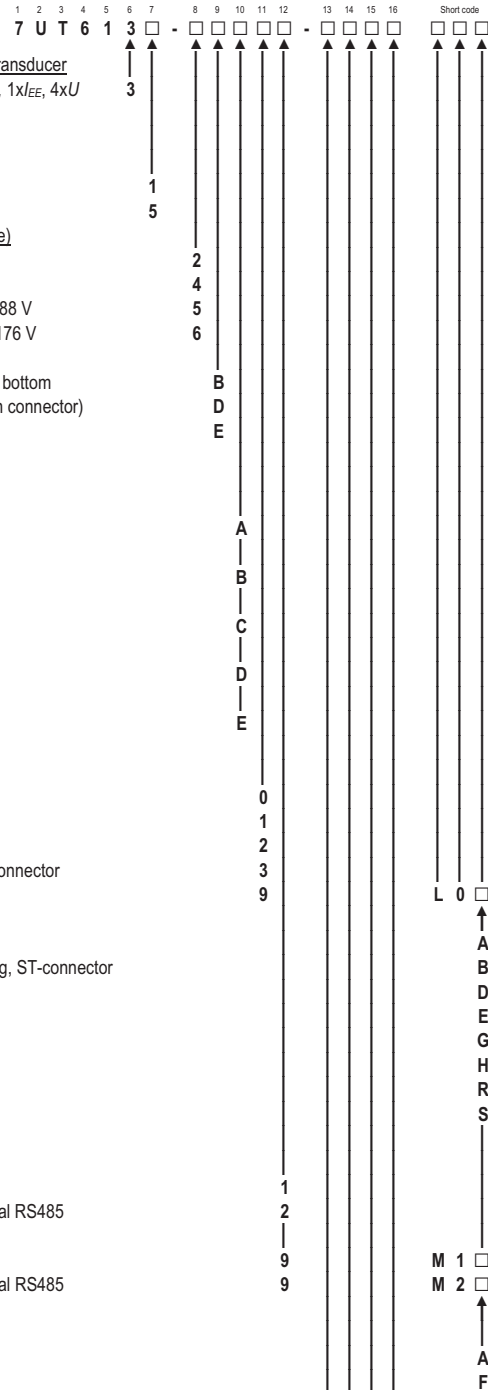
DIGSI 4 / Modem/Browser, electrical RS232
DIGSI 4 / Modem/ Browser/Thermo-box, electrical RS485

Port C and Port D (Service interface)

DIGSI 4 / Modem/Browser, electrical RS232
DIGSI 4 / Modem/ Browser/Thermo-box, electrical RS485

Port D (Additional interface)

Thermo-box, optical 820 nm, ST-connector
Thermo-box, electrical RS485



(continued on next page)

**Protection
SIPROTEC 4**

1) 50Hz/60Hz resp. 16,7 Hz as presetting if MLFB position 14 = C or D (rail protection option)
2) 60Hz/50Hz resp. 16,7 Hz as presetting if MLFB position 14 = C or D (rail protection option)

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Protection
SIPROTEC 4

| Product description | Variants | Order No. | |
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| Digital differential protection relay for transformers, generators, motors, small busbars and short lines Backlit, alphanumeric display with four lines, 14 programmable LEDs, navigation buttons, function buttons, number block. (continued from previous page) | | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 7 U T 6 1 3 □ - □ □ □ □ □ - □ □ □ □ | |
| | | Measuring and monitoring functions Basic measured values, fault recording Extended measured values, min./max., mean values Extended measured values, min./max., mean values transformer monitoring functions (connection to thermo-box/hot spot, overload factor) ¹⁾ | 1 2 4 |
| | 87 T G M L | Differential protection/Backup function Differential protection transformer, autotransformer, generator, motor, Small busbar, short line | A |
| | 49 | Overload protection for one winding | |
| | 86 | Lockout function | |
| | 50/51 | Time-overcurrent protection TOC phase: I_p , $I_{p>}$, I_{p0} , (inrush stabilization) | |
| | 50N/51N | Overcurrent protection TOC $3I_0$: $3I_0>$, $3I_0>>$, $3I_{0p}$ (inrush stabilization) | |
| | 50G/51G | Overcurrent protection TOC ground: $I_{E>}$, $I_{E>>}$, I_{Ep} (inrush stabilization) | |
| | | Backup protection + additional current functions 87N Restricted earth fault low impedance 87N TOC single-phase for restricted earth fault high impedance (87 N without external resistor / varistor) ²⁾ or sensitive Overcurrent protection / tank protection 64 Load unbalance protection 46 Breaker failure protection 50BF Trip circuit supervision | B |
| | | Rail protection 16.7 Hz ³⁾ Differential protection+ backup function + additional current functions available protection objects: transformer (1-/3-phase), motor, generator | C |
| | Rail protection 16.7 Hz ³⁾ Differential protection+ backup function + additional current functions available protection objects: generator,motor,transformer (1-/3-phase), busbar (1-/3-phase) | D | |
| | Additional voltage functions without Voltage measurement and overexcitation protection Voltage measurement and overexcitation protection + Over- and Undervoltage protection + Frequence protection + Power directional protection + Fuse failure monitor | A B C | |
| | Additional functions (general) without Multiple protection functions (50,51 50 N/G, 51 N/G, 87 N, 50 BF, 49) ⁴⁾ Flexible protection functions Multiple protection functions and flexible protection functions | 0 1 2 3 | |

Flexible protection functions

- I-Measuring location/ side
- Current supplementary CT
- Voltage (Vph-ph, Vph-E, V0, V1, V2, Vn)
- Active Power forward
- Active Power reverse
- Power Factor
- Frequency

1) Monitoring functions only available with external temperature measuring unit 7XV5662-AD10 (see section Accessories communication).

2) Varistor and resistor (see section Accessories).

3) Only with MLFB position 16=1 or 3

4) Only if available already through MLFB position 14