

Line Differential Protection SIPROTEC 7SD52, 7SD53

Protection
SIPROTEC 4

Product description Variants Order No.

								1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16						
Combined multi- end line differential protection with distance protection								7	S	D	5	□	□	□	-	□	□	□	□	-	□	□	□	□	□	□			
<u>Device type¹⁾</u>								↑	↑	↑																			
Two-terminal differential relay with 4-line display								2	2																				
Two-terminal differential relay with graphical display								3	2																				
Multi-terminal differential relay with 4-line display								2	3																				
Multi-terminal differential relay with graphical display								3	3																				
<u>Measurement input</u>																													
$I_{ph} = 1 A^{2)}$, $I_e = 1 A^{2)}$														1															
$I_{ph} = 1 A^{2)}$, $I_e = \text{sensitive (min. = 0,005 A)}$														2															
$I_{ph} = 5 A^{2)}$, $I_e = 5 A^{2)}$														5															
$I_{ph} = 5 A^{2)}$, $I_e = \text{sensitive (min. = 0,005 A)}$														6															
<u>Auxiliary voltage</u> (Power supply, BI trigger level)																													
DC 24 V to 48 V, trigger level binary input 19 V ⁴⁾															2														
DC 60 V to 125 V ³⁾ , trigger level binary input 19 V ⁴⁾															4														
DC 110 V to 250 V ³⁾ , AC 115 V, trigger level binary input 88 V ⁴⁾															5														
DC 220 V to 250 V ³⁾ , AC 115 V, trigger level binary input 176 V ⁴⁾															6														
Binary / indication inputs	Signal / command outputs incl one life contact	Fast relays ⁵⁾	High Speed ⁶⁾ trip outputs	Housing width referred to 19"	Flush- mounting housing / Screw term terminals	Flush- mounting housing / plug-in terminals	Surface- mounting housing / screw terminals																						
8	4	12	-	1/2	■																								
8	4	12	-	1/2			■																						
8	4	12	-	1/2		■																							
16	12	12	-	1/1	■																								
16	12	12	-	1/1			■																						
16	12	12	-	1/1		■																							
16	4	15	5	1/1	■																								
16	4	15	5	1/1			■																						
16	4	15	5	1/1		■																							
24	20	12	-	1/1	■																								
24	20	12	-	1/1			■																						
24	20	12	-	1/1		■																							
24	12	15	5	1/1	■																								
24	12	15	5	1/1			■																						
24	12	15	5	1/1		■																							
24	4	18	10	1/1	■																								
<u>Region-specific default/language settings and funtion versions</u>																													
Region GE, German language (can be changed)																													
Region world, English language (can be changed)																													
Region US, US-English language (can be changed)																													
Region world, French language (can be changed)																													
Region world, Spanish language (can be changed)																													
Region world, Italian language (can be changed)																													
<u>System interfaces</u>																													
No system interface																													
IEC protocol, electrical RS232																													
IEC protocol, electrical RS485																													
IEC protocol, optical 820 nm, ST-connector																													

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(continued on next page)

1) Redundant prot. data interface for Hot-Standby-service is possible with a two terminal differential relay (second prot. data interface is needed)
 2) Rated current 1/5A can be selected by the means of jumpers.
 3) Transition between three auxiliary voltage ranges can be selected by means of jumpers.
 4) The binary input thresholds are selectable in three step by means of jumpers.
 5) Fast relays are indentified in the in the terminal diagram. The time advantage compared with signal/command outputs is approx. 3ms, mainly for protection commands
 6) High-speed trip outputs are indentified in the in the terminal diagram. The time advantage compared with Fast relays is approx. 5ms

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Protection
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Product description Variants Order No.

(continued from previous page)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
7 S D 5 - -

Functions

Overcurrent protection/

Breaker failure protection (ANSI 50, 50N, 51, 51N, 50BF)

Earth fault protection (ANSI 67N)

Distance protection (Pickup Z<, polygon, MHO, parallel line comp.)

Power Swing detection (ANSI 21, 21N, 68, 68T)

Distance protection (Ipickup I>,-UI/Phi, -Z<),
polygon, parallel line comp. ²⁾, power swing det. (ANSI 21, 21N, 68, 68T)

Earth fault detection for
isolated/compensated networks¹⁾

with	without	without	without	without
with	without	without	with	without
with	without	with	without	without
with	with	without	without	without
with	with	without	with	without
with	with	with	without	without
with	without	without	without	with
with	without	without	with	with
with	with	without	without	with
with	with	without	with	with

C
D
E
F
G
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J
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M

Additional functions 1

4 Remote commands/24 Remote indications

Transformer expansions

Fault locator

Voltage protection, frequency protection (ANSI 27, 50)

Restricted earth fault low impedance (ANSI 87N) ²⁾

with	without	1-side measuring	without	without
with	without	1-side measuring	with	without
with	without	2-side measuring	without	without
with	without	2-side measuring	with	without
with	with	1-side measuring	without	without
with	with	1-side measuring	with	without
with	with	2-side measuring	without	without
with	with	2-side measuring	with	without
with	with	1-side measuring	without	with
with	with	1-side measuring	with	with
with	with	2-side measuring	without	with
with	with	2-side measuring	with	with

J
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V

Additional functions 2

Measured values, extended, Min/Max values

External GPS synchronization

Capacitive Current load compensation

without	without	without
without	with	without
with	without	without
with	with	without
without	without	with
without	with	with
with	without	with
with	with	with

0
1
2
3
4
5
6
7

1) Only available with OrderNo. Pos. 7 = 2 or 6

2) Only available with OrderNo. Pos. 7 = 1 or 5