Line Differential Protection
SIPROTEC 7SD80

Product description	Variants	Order No.
Medium voltage differential protection device		**7 S D 8 0 □ □ - □ □ □ □ □ - □ □ □ □ Short code □ □ □**
	Housing 1/6 19", binary inputs and outputs 1 Life contact	
	4xI, 3 BI, 5 BO [1], Prot. Data Interface FO for mono- (24km) and multimode (4km), LC-duplex connector	**1**
	4xI, 7 BI, 8 BO [1], Prot. Data Interface FO for mono- (24km) and multimode (4km), LC-duplex connector	**2**
	4xI, 5 BI, 8 BO [1], Prot. Data Interface, 2 wires copper, twisted	**3**
	4xI, 3xV, 3 BI, 5 BO [1], Prot. Data Interface FO for mono- (24km) and multimode (4km), LC-duplex connector	**5**
	4xI, 3xV, 7 BI, 8 BO [1], Prot. Data Interface FO for mono- (24km) and multimode (4km), LC-duplex connector	**6**
	4xI, 3xV, 5 BI, 8 BO [1], Prot. Data Interface 2 wires copper twisted	**7**
	Measuring inputs, default settings	
	I_{ph} = 1 A/5 A, Ie = 1 A/5 A	**1**
	I_{ph} = 1 A/5 A, Iee (sensitive) = 0,001 to 1,6 A/0,005 to 8 A	**2**
	Rated auxiliary voltage	
	DC 24 V to 48 V	**1**
	DC 60 V to 250 V; AC115 V; AC 230 V	**5**
	Unit version	
	Surface-mounting housing, screw-type terminal	**B**
	Flush-mounting housing, screw-type terminal	**E**
	Region-specific default- and language settings	
	Region DE, IEC, language German [2], standard face plate	**A**
	Region World, IEC/ANSI, language English [2], standard face plate	**B**
	Region US, ANSI, language US-English [2], US face plate	**C**
	Port B (at bottom of device)	
	No port	**0**
	IEC 60870-5-103 or DIGSI 4/modem or Time Sync. Port, electrical RS232	**1**
	IEC 60870-5-103 or DIGSI 4/modem or Time Sync. Port, electrical RS485	**2**
	IEC 60870-5-103 or DIGSI 4/modem Time Sync. Port, optical 820 nm, ST-connectors	**3**
	Further protocols see supplement L	**9**
	PROFIBUS DP slave, electrical RS485	**A**
	PROFIBUS DP slave, optical, double ring, ST-connector	**B**
	Modbus, electrical RS485	**D**
	Modbus, optical 820 nm, ST-connector	**E**
	DNP3, electrical RS485	**G**
	DNP3, optical 820 nm, ST-connector	**H**
	IEC 60870-5-103, redundant, electrical RS485, RJ45-connector	**P**
	IEC 61850, 100 Mbit Ethernet, 2 electrical ports, RJ45-connector	**R**
	IEC 61850, 100 Mbit Ethernet, 2 FO ports, LC-duplex connector	**S**
	Port A (at bottom of device)	
	No port [3]	**0**
	Redundant FO Protection interface to the 2 wire copper interface	**7**
	Protection interface FO for mono- (24km) and multimode (4km). LC-duplex connector. [4]	

(continued on next page)

1) 2 changeover/Form C.
2) Language selectable.
3) The FO interface is equipped if MLFB position 6 = **1, 2, 5** or **6.**
4) only if MLFB position 6=**3** or **7.**

Product description	Variants		Order No.							
			1 2 3 4 5 6 7 8 9 10 11 12 13	14	15	16		Short code		
Medium voltage differential protection device			**7 S D 8 0 □ □ - □ □ □ □ □ -**							
(continued from previous page)	Measuring / fault recording									
	With fault recorder		**1**							
	With fault recorder, average values, min/max values		**3**							
	ANSI-No.									
Basic version (contained in all options)	87L/87N	Line differential protection (phase comparison and 3IO differential protection 1)) Inrush-current detection		**F**	**A**		1) 2)			
	50 TD/51	Definite/inverse time-overcurrent protection phase I>, I >>, I>>>, I_p								
	50N TD/51N	Definite/inverse time-overcurrent protection ground I_E>, I_E >>, I_E >>>, I_{EP}								
	49	Overload protection								
	74 TC	Trip circuit supervision								
	50 BF	Circuit breaker failure protection								
	86	Lockout								
	85 DT	Circuit-breaker intertripping function (trip of the remote circuit breaker)								
		External trip initiation								
		Parameter changeover (parameter group change)								
		Supervision functions								
		Circuit-breaker test								
		Control of circuit-breaker								
		Flexible protection function current, voltage 2), cos φ 2), power 2), frequency 2)								
	27/59	Under-/Overvoltage protection 2) V<, V>								
	81 U/O	Under-/Overfrequency protection 2) f<, f>								
■	67	Directional definite/inverse time-overcurrent protection, phase 3), ∠(V,I) I>, I >>, I_p		**F**	**B**		1) 2)			
	67N	Directional definite/inverse time-overcurrent protection ground 3) ∠(V,I) I_E>, I_E >>, I_{EP}								
■	87Ns L	Ground-fault differential protection for isolated/resonance-earthed networks 3) 4)		**F**	**C**		3) 4)			
■	67	Directional definite/inverse time-overcurrent protection, phase 3) ∠(V,I) I>, I >>, I_p		**F**	**E**		3) 4)			
	67N	Directional definite/inverse time-overcurrent protection, ground 3), ∠(V,I) I_E>, I_E >>, I_{EP}								
	87Ns L	Ground-fault differential protection for isolated/resonance-earthed networks 3) 4)								
AR		Without				**0**				
		Transmission of 16 binary signals via the Protection interface				**1**				
	79	With automatic reclosure function (AR)				**2**				
	79	Transmission of 16 binary signals via the Protection interface and with automatic reclosure function (AR)				**5**				
		Conformal coating 5)						**Z**	**Y**	**1** **5**
		Conformal coating 6)						**Z**	**Y**	**1** **6**

■ Basic version included.

1) MLFB position 7 = **1** required (I_{ph} = 1 A/5 A, I_e =1 A/5 A).
2) Function available if MLFB position 6 = **5**, **6** or **7** (voltage transformer inputs).
3) MLFB position 6 = **5**, **6** or **7** required (voltage transformer inputs).
4) MLFB position 7 = **2** required (I_{ph} = 1 A/5 A, I_{ee} (sensitive) = 0.001 to 1.6 A/0.005 to 8 A).
5) Only with position 6 = 1 or 5
6) Only with position 6 = 2, 3, 6 or 7