Product description	Variants	Order No.

Overcurrent protection

```
              1 2 3 4 5 6 7   8 9 10 11 12   13 14 15 16    Short code
              7 S J 8 0 □ □ - □ □ □ □ □ - □ □ □ □      □ □ □
```

Measuring inputs, binary inputs and outputs
Housing 1/6 19", 4 x I, 3 BI, 5 BO [1], 1 Life contact **1**
Housing 1/6 19", 4 x I, 7 BI, 8 BO [1], 1 Life contact **2**
Housing 1/6 19", 4 x I,3 x V, 3 BI, 5 BO [1], 1 Life contact **3**
Housing 1/6 19", 4 x I,3 x V, 7 BI, 8 BO [1], 1 Life contact **4**
Housing 1/6 19", 4 x I,11 BI, 5 BO [1], 1 Life contact **7**
Housing 1/6 19", 4 x I,3 x V, 11 BI, 5 BO [1], 1 Life contact **8**

Measuring inputs, default settings
I_{ph} = 1A/5A, I_e = 1A/5A **1**
I_{ph} = 1A/5A, I_{ee} (sensitive) = 0,001 to 1,6A/0,005 to 8A **2**

Rated auxiliary voltage
DC 24 V to 48 V **1**
DC 60 V / 110 V / 125 V / 220 V / 250 V, AC 115 V, AC 230 V **5**

Construction
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 front **A**
Region World, IEC/ANSI, language English [2], standard front **B**
Region US, ANSI, language US-English [2], US front **C**
Region FR, IEC/ANSI, language French [2], standard front **D**
Region World, IEC/ANSI, language Spanish [2], standard front **E**
Region World, IEC/ANSI, language Italian [2], standard front **F**
Region RUS, IEC/ANSI, language Russian [2], standard front **G**
Region CHN, IEC/ANSI, language Chinese [3], Chinese front **K**

Port B (at bottom of device)
No port **0**
IEC 60870-5-103 or DIGSI 4/modem, electrical RS232 **1**
IEC 60870-5-103 or DIGSI 4/modem, electrical RS485 **2**
IEC 60870-5-103 or DIGSI 4/modem, optical 820 nm, **3**
ST-connector
Further protocols see supplement L **9**   **L □ □**

	0 A
PROFIBUS DP slave, electrical RS485	0 A
PROFIBUS DP slave, optical, double ring, ST-connector	0 B
Modbus, electrical RS485	0 D
Modbus, optical 820 nm, ST-connector	0 E
DNP3, electrical RS485	0 G
DNP3, optical 820 nm, ST-connector	0 H
IEC 60870-5-103, redundant, electrical RS485, RJ45-connector	0 P
IEC 61850, 100 Mbit Ethernet, electrical, double, RJ45-connector	0 R
IEC 61850, 100 Mbit Ethernet, optical, double, LC-connector	0 S
DNP3 TCP + IEC 61850, 100 Mbit Ethernet, electrical, double, RJ45-connector	2 R
DNP3 TCP + IEC 61850, 100 Mbit Ethernet, optical, double, LC-connector	2 S
PROFINET + IEC 61850, 100 Mbit Ethernet, electrical, double, RJ45-connector	3 R
PROFINET + IEC 61850, 100 Mbit Ethernet, optical, double, LC-connector	3 S
IEC 60870-5-104 + IEC 61850, 100 Mbit Ethernet, electrical, double, RJ45 connector	4 R
IEC 60870-5-104 + IEC 61850, 100 Mbit Ethernet, optical, double, LC connector	4 S
Modbus TCP + IEC 61850, 100 Mbit Ethernet, electrical, double, RJ45 connector [4]	5 R
Modbus TCP + IEC 61850, 100 Mbit Ethernet, optical, double, LC connector [4]	5 S

[1]   2 changeover/Form C.
[2]   Language selectable.
[3]   Language not changeable.
[4]   From Version 4.74.

Overcurrent Protection
SIPROTEC 7SJ80

Product description	Variants	Order No.

<table>
<tr><td></td><td></td><td>1 2 3 4 5 6 7　8 9 10 11 12　13 14 15 16
7 S J 8 0 □ □ **-** □ □ □ □ □ □ **-** □ □ □ □</td></tr>
</table>

Overcurrent protection

(continued from previous page)

Port A (at bottom of device)
No port — **0**
With Ethernet interface (DIGSI, I/O-Unit connection, not IEC61850), RJ45-connector — **6**

Measuring / fault recording
With fault recording — **1**
With fault recording, average values, min/max values — **3**

ANSI-No.

Product description			
Basic version (contained in all options)	50/51	Overcurrent protection phase $I>$, $I>>$, $I>>>$, I_p	**F A** 3)
	50N/51N	Overcurrent protection ground $I_E >$, $I_E >>$, $I_E >>>$, I_{Ep}	
	50N(s)/51N(s) 1)	Sensitive ground fault protection $I_{EE} >$, $I_{EE} >>$, I_{EEp}	
	87N 2)	High impedance REF	
	49	Overload protection	
	74TC	Trip circuit supervision	
	50BF	Circuit breaker failure protection	
	46	Negative sequence / unbalanced load protection	
	37	Undercurrent monitoring	
	86	Lockout	
		Parameter changeover	
		Monitoring functions	
		Control of circuit-breaker	
		Flexible protection functions (current parameters)	
		Inrush restraint	
Directional sensitive ground fault, voltage and frequency protection ■	51V	Voltage dependent inverse-time overcurrent protection	**F B** 4)
	67N	Directional overcurrent protection ground, $I_E>$, $I_E >>$, $I_E >>>$, I_{Ep}	
	67N(s) 1)	Directional sensitive ground fault protection, $I_{EE}>$, $I_{EE} >>$, I_{EEp}	
	64/59N	Displacement voltage	
	27/59	Under-/overvoltage	
	81U/O	Under-/overfrequency, $f<$, $f>$	
	47	Phase rotation	
	27R/32/55/ 59R/81R	Flexible protection functions (current and voltage parameters): Protective function for voltage, power, power factor, rate-of-frequency change, rate-of-voltage change	
Directional phase & ground overcurrent, directional sensitive ground fault, voltage and frequency protection ■	51V	Voltage dependent inverse-time overcurrent protection	**F C** 4)
	67	Directional overcurrent protection phase, $I>$, $I>>$, $I >>>$, I_p	
	67N	Directional overcurrent protection ground, $I_E>$, $I_E >>$, $I_E >>>$, I_{Ep}	
	67N(s) 1)	Directional sensitive ground fault protection, $I_{EE}>$, $I_{EE} >>$, I_{EEp}	
	64/59N	Displacement voltage	
	27/59	Under-/overvoltage	
	81U/O	Under-/overfrequency, $f<$, $f>$	
	47	Phase rotation	
	27R/32/55/ 59R/81R	Flexible protection functions (current and voltage parameters): Protective function for voltage, power, power factor, rate-of-frequency change, rate-of-voltage change	

■ Basic version included.

1) Depending on the ground current input the function will be either sensitive (I_{EE}) or non-sensitive (I_E).
2) Function only available with sensitive ground current input (Position 7 = **2**).
3) Only with position 6 = **1**, **2** or **7**.
4) Only with position 6 = **3**, **4** or **8**.

Product description	Variants	Order No.

Order No. positions: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 Short code

7 S J 8 0 □ □ - □ □ □ □ □ - □ □ □ □ □ □ □

Overcurrent protection
(continued from previous page)

	ANSI-No.		Pos 13	Pos 14	
Directional phase & ground overcurrent, directional sensitive ground fault, voltage and frequency protection + Undervoltage controlled reactive power protection + Directional intermittent ground fault protection ■	51V	Voltage dependent inverse-time overcurrent protection	F	F	3)
	67	Directional overcurrent protection phase I>, I>>, I >>>, I_p			
	67N	Directional overcurrent protection ground, I_E>, I_E >>, I_E >>>, I_{Ep}			
	67N(s) 1)	Directional sensitive ground fault protection I_{EE}>, I_{EE} >>, I_{EEp}			
	67Ns 2)	Directional intermittent ground fault protection			
	64/59N	Displacement voltage			
	27/59	Under/Overvoltage			
	81 U/O	Under/Overfrequency, f< ,f>			
	27/Q	Undervoltage controlled reactive power protection, Q>/V<			
	47	Phase rotation			
		Flexible protection functions (current and voltage parameters)):			
	27R/32/55/ 59R/81R	Protective function for voltage, power, power factor, rate-of-frequency change, rate-of-voltage change			
Directional phase overcurrent, voltage and frequency protection + Synch-check ■	51V	Voltage dependent inverse-time overcurrent protection	F	Q	4)
	67	Directional overcurrent protection phase, I>, I>>, I >>>, I_p			
	27/59	Under-/overvoltage			
	81U/O	Under-/overfrequency, f<, f>			
	47	Phase rotation			
	25	Synch-check			
		Flexible protection functions (current and voltage parameters):			
	27R/59R/81R	Protective function for voltage, rate-of-frequency change, rate-of-voltage change			
Automatic Reclosing (AR), Fault Locator (FL)		Without		0	
	79	With autoreclose		1	
	21FL	With fault locator 3)		2	
	79/21FL	With autoreclose, with fault locator 3)		3	

			Pos 13	14	15	16
	Conformal coating 5)		Z	Y	1	5
	Conformal coating 6)		Z	Y	1	6

■ Basic version included.

1) Depending on the ground current input the function will be either sensitive (IEE) or non-sensitive (IE).
2) Function only available with sensitive ground current input (Position 7=2).
3) Only with position 6 = 3 , 4 or 8
4) Only with position 6 = 3, 4 or 8 and position 16 = 0 or 1
5) Only with position 6 = 1 or 3
6) Only with position 6 = 2, 4, 7 or 8