# Overcurrent Protection SIPROTEC 7SJ63

	Product description	Variants	Order No.						
	Multifunction protection relay	with local control and RTD <sup>1)</sup> interface	1 2 3 4 5 7 S J 6 3				13 14 - 🗌 🛄   A A		
Protection SIPROTEC 4		Housing, binary inputs and outputs Housing 1/2 19", 11 BI, 8 BO, 1 Life contact Housing 1/2 19", 24 BI, 11 BO, 1 Life contact 2 High-duty relays (4 contacts) Housing 1/2 19", 20 BI, 11 BO, 2 measuring transduct inputs, 1 Life contact, 2 High-duty relays (4 contacts) Housing 1/1 19", 37 BI, 14 BO, 1 Life contact, 4 High-duty relays (8 contacts) Housing 1/1 19", 33 BI, 14 BO, 2 measuring transducer inputs, 1 Life contact 4 High-duty relays (8 contacts)	ər	1 2 3 5 6					
		<u>Measuring inputs (3xV, 4x<i>I</i>)</u> $I_{ph} = 1 A^{2}$ , $I_e = 1 A^{2}$ (min. = 0,05 A) 15th position only with: A, C, E, G		1					
		$I_{ph}$ = 1 A <sup>2</sup> ), $I_e$ = sensitive (min. = 0,001 A) 15th position only with: B, D, F, H		2					
		$I_{ph}$ = 5 A <sup>2</sup> ), $I_e$ = 5 A <sup>2</sup> ) (min. = 0,25 A) 15th position only with: A, C, E, G		5					
		$I_{ph}$ = 5 A <sup>2</sup> ), $I_e$ = sensitive (min. = 0,001 A) 15th position only with: B, D, F, H		6					
		<i>I</i> <sub>ph</sub> = 5 A <sup>2</sup> ), <i>I</i> <sub>e</sub> = 1 A <sup>2</sup> ) (min. = 0,05 A) 15th position only with: A, C, E, G		1 7				 	
		<u>Auxiliary voltage</u> DC 24 V to 48 V, binary input threshold DC 19 V DC 60 V to 125 V <sup>3</sup> , binary input threshold DC 19 V <sup>4</sup> ) DC 110 V to 250 V <sup>3</sup> , AC 115 to 230 V, input threshold			2 4 5				
		Construction Surface-mounting housing, plug-in terminals, detache panel mounting in I.v. housing	d HMI,		 A 				
		Surface-mounting housing, 2-tier terminals on top/bot	tom		 B 				
		Surface-mounting housing, screw-type terminals (dire ring-type cable lugs), detached HMI, panel mounting i			ċ 				
		Flush-mounting housing, plug-in terminals (2/3 pin con	nnector)		D				
		Flush-mounting housing, screw-type terminals (direct-connection/ring-type cable lugs)			Ė				
		Surface-mounting housing, screw-type terminals (dire ring-type cable lugs), without HMI, panel mounting in			F				
		Surface-mounting housing, plug-in terminals, without panel mounting in I.v. housing	HMI,		l G				
						1 I I ((	I I continued or	n next page)	

- 1) RTD (resistance temperature detector) Box, 7XV5662-\*AD10 (at accessories communication)
- 2) Rated current 1/5 A can be selected by means of jumpers.
- 3) Transition between the two auxiliary voltage ranges can be selected by means of jumpers.
- 4) The thresholds of each binary input can be set via bridges. Settings deviant from the standard can be ordered via Z-variants. Further information can be found in the MLFB sheet in the sharepoint (Intranet).

## Overcurrent Protection SIPROTEC 7SJ63

Product description	Variants	Order No.	
Multifunction protection relay	with control and RTD <sup>1)</sup> interface	1 2 3 4 5 6 7 8 9 10 <b>7 S J 6 3-</b>	
(continued from previous page)		Ī	
	Region-specific default settings/function versio	ns and language settings	
	Region DE, 50 Hz, IEC-characteristics,	Ą	
	language German (language changeable)		
	Region World, 50/60 Hz, ANSI/IEC-characteris	tics.	
	language English (language changeable)		
	Region US, 60 Hz, ANSI-characteristics,	l C	
	language US-English (language changeable)		
	Region FR, ANSI/IEC-characteristics,	l P	
	language French (language changeable)		
	Region World, ANSI/IEC-characteristics,	É	
	language Spanish (language changeable)		
	System port (on rear of device)		
	No system port		ò
	IEC 60870-5-103 Protocol, electric RS232		1
	IEC 60870-5-103 Protocol, electrical RS485		2
	IEC 60870-5-103 Protocol, optical 820 nm, ST-		3
	Further protocols see supplement L		9       L 0 🗆
	PROFIBUS DP slave, RS485		
	PROFIBUS DP slave, optical 820 nm, double ri	ng, ST-connector <sup>2)</sup>	В
	Modbus, RS485		
	Modbus, optical 820 nm, ST-connector <sup>3)</sup>		E
	DNP3.0, RS485		G
	DNP3.0, optical 820 nm, ST-connector <sup>3)</sup>		
	IEC 61850, 100 Mbit Ethernet, electrical, doubl		R
	IEC 61850, 100 Mbit Ethernet, with integrated	switch	S S
	optical, double, LC-connector <sup>3)</sup>		
	Port C		
	No port		o
	DIGSI 4/Modem, electric RS232		1
	DIGSI 4/Modem/RTD-Box 1), electrical RS485		2
	DIGSI 4 Modem/RTD-Box <sup>1)</sup> , 820 nm fibre, ST	-connector	3
	Measuring/fault recording		
	Slave pointer, mean values, min/max values, fa	ault recording	3
			(continued on next page)

1) RTD (resistance temperature detector) Box, 7XV5662-\*AD10 (at accessories communication)

2) If position 9="B" (surface-mounting housing, 2-tier terminals on top/bottom), please order the relay with RS485 interface and separate fibre-optic converter

3) Not available with position 9="B".

Protection SIPROTEC 4

#### **Overcurrent Protection SIPROTEC 7SJ63**

Protection

	Product de	scription			Variar	its	Order No.				
	Multifunct	ion protectio	on rela	y with	control and	I RTD <sup>1)</sup> interface	1 2 3 4 5 6 7 <b>7 S J 6 3 ⊡ ⊡ -</b>	8 9 10 11 12 • • • • • • • • •			
		Protection function packages ANSI-No.			ANSI-No.				ÎĪĪ		
	(continued from previous page)			50/54	Control	testing TOO shares to the L		F A I			
	Basic versi	in all options	`		50/51 50N/51N		Direction TOC phase $I$ >, $I$ >>, $I_p$ C earth $I_E$ >, $I_E$ >>, $I_{Ep}$		F A		
	(contained		)		50N/51N		on via insensitive IEE-function: IEE	> Inc >> Inc ?)			
					49		(with 2 time constants)	~, IEE ~~, IEEp -/			
4					46	Negative sequence	,				
C)					37	Undercurrent monito					
					47	Phase sequence					
					59N/64	Displacement voltag	е				
SIPROTEC					50BF	Circuit-breaker failur	e protection				
. ഗ					74TC	Trip circuit supervision	n				
						4 setting groups; col	d load pick-up				
						Inrush blocking					
					86	Lock out					
	•			V,f	27/59	Under/overvoltage			FE		
			100	115	810/U	Under/overfrequency					
	•		IEF	V,f	27/59	Intermittent earth-fau Under/overvoltage	IIt		P E		
					27/59 810/U	Under/overfrequency	,				
	-	Dir			67/67N		or phase and earth currents		FC		
		Dir		V.f	67/67N		or phase and earth currents	—	FG		
	-			۷,۱	27/59	Under/overvoltage	or phase and earth currents		ΪĬ		
					810/U	Under/overfrequency	/				
		Dir	IEF		67/67N		or phase and earth currents	_	ΡĊ		
						Intermittent earth-fau	It				
	Dir. S.EF	Dir			67/67N	Directional element f	or phase and earth currents		FD	3)	
	•				67Ns	Directional sensitive	earth-fault detection				
					87N	High-impedance res		_			
	Dir. S.EF	Dir	IEF		67/67N		or phase and earth currents		P D	3)	
	•				67Ns	Directional sensitive					
					87N	High-impedance res					
	Dir. S.EF				67Ns	Intermittent earth-fau Directional sensitive		_	F B	3)	
					87N	High-impedance res			ΪΪ	-,	
	Dir. S.EF	Motor		V,f	67Ns	0 1	earth-fault detection	_	H F	3)	
		motor		• ,.	87N	High-impedance res			ÏÌÌ		
					48/14	Starting time supervi					
					66/86	Restart inhibit					
					27/59	Under/overvoltage					
					810/U	Under/overfrequency		_			
	Dir. S.EF	Motor	Dir	V,f	67/67N		or phase and earth currents		H H	3)	
	•				67Ns	Directional sensitive					
					87N	High-impedance res					
					48/14 66/86	Starting time supervi Restart inhibit	SION, IUCKED FOLOF				
					66/86 27/59	Under/overvoltage					
					810/U	Under/overfrequency	1				
					010/0	e.naono romoquelloj	1		(continued)	on next page)	
									,	······································	

Basic version included
 V,f = Voltage-, frequency protection
 Dir = Directional overcurrent protection
 IEF= Intermittent earth-fault

Dir. S.EF=Directional sensitive earth-fault detection

1) RTD (resistance temperature detector) Box, 7XV5662-\*AD10 (at accessories communication)

2) Only with position 7 = 1, 5, 7 (insensitive earth current input)

3) For isolated/compensated networks, only with position 7 = 2, 6 (sensitive earth current input)

## **Overcurrent Protection SIPROTEC 7SJ63**

Product de	escription			Varian	ts Order No.	
Multifunct	tion proted	tion relay	with	control and	RTD 1) interface         1         2         3         4         5         6         7         8         9         10         11         12         13         14         15         16           RTD 1) interface         7         S         J         6         3         -	
Protection	n function	packages			Î Î Î	
(continued f	rom previous	s page)		ANSI-No.		
Basic version (contained in all options)			50/51 50N/51N 50N/51N 49 46 37 47 59N/64 50BF	Control       Time-overcurrent protection TOC phase $I>, I>>, I_p$ ,         Earth protection TOC earth $I_{E>}, I_{E>}>, I_{Ep}$ Ground-fault protection via insensitive IEE-function: $I_{EE} >, I_{EE} >>, I_{EEP}^{-2)}$ Overload protection (with 2 time constants)       Negative sequence protection         Undercurrent monitoring       Phase sequence         Displacement voltage       Circuit-breaker failure protection		
				74TC 86	Trip circuit supervision 4 setting groups; cold load pick-up Inrush blocking Lock out	
Dir. S.EF ■	Motor	Dir IEF	V,f	67/67N 67Ns 87N	Directional element for phase and earth currents R H Directional sensitive earth-fault detection High-impedance restricted earth fault Intermittent earth-fault	3)
				48/14 66/86 27/59 81O/U 81O/U	Starting time supervision, locked rotor Restart inhibit Under/overvoltage Under/overfrequency Under/overfrequency	
•	Motor	Dir	V,f		Directional element for phase and earth currents H G Starting time supervision, locked rotor Restart inhibit Under/overvoltage Under/overfrequency	
•	Motor			48/14 66/86	Starting time supervision, locked rotor H A Restart inhibit	
ARC, fault locator 75 21		79 21FL 79/21FL	without     0       with autoreclose     1       with fault locator     2       with autoreclose, with fault locator     3			

Basic version included
 V,f = Voltage-, frequency protection
 Dir = Directional overcurrent protection
 IEF= Intermittent earth-fault
 Dir. S.EF=Directional sensitive earth-fault detection

1) RTD (resistance temperature detector), Box 7XV5662-\*AD10 (at accessories communication)

2) Only with position 7 = 1, 5, 7 (insensitive earth current input)

3) Only with position 7 = 2, 6 (sensitive earth current input)

# Overcurrent Protection SIPROTEC 7SJ64

	Product description	Variants	Order No.	
	Multifunction protection relay wi	th local control, synchronization and $RTD^\eta$ interface	1 2 3 4 5 6 7 8 9 10 11 7 S J 6 4	
Protection SIPROTEC 4		Housing, binary inputs and outputs Housing 1/3 19", 7 BI, 5 BO, 1 Life contact text display 4*20 character (only for 7SJ640) 9 <sup>th</sup> position only with: B, D, E Housing 1/2 19", 15 BI, 13 BO (1a/b contact), 1 Life contact, graphic display Housing 1/2 19", 20 BI, 8 BO, 2 High-duty relays (4 con 1 Life contact, graphic display Housing 1/1 19", 33 BI, 11 BO, 4 High-duty relays (8 co 1 Life contact, graphic display Housing 1/1 19", 48 BI, 21 BO, 4 High-duty relays (8 co 1 Life contact, graphic display	ontacts) 5	
		<u>Measuring inputs (4xV, 4x<i>I</i>)</u> $I_{ph} = 1 A^{2}$ , $I_e = 1 A^{2}$ (min. = 0,05 A) 15 <sup>th</sup> position only with: A, C, E, G	1	
		$I_{ph} = 1 \text{ A}^{2}$ , $I_e = \text{sensitive (min. = 0,001 A)}$ 15 <sup>th</sup> position only with: B, D, F, H	2	
		$I_{ph} = 5 \text{ A}^{2}$ , $I_e = 5 \text{ A}^{2}$ (min. = 0,25 A) 15 <sup>th</sup> position only with: A, C, E, G	5	
		$\mathit{I}_{ph}$ = 5 A <sup>2)</sup> , $\mathit{I}_{e}$ = sensitive (min. = 0,001 A) 15 $^{\rm th}$ position only with: B, D, F, H	6	
		$I_{ph} = 5 A^{2}$ , $I_e = 1 A^{2}$ (min. = 0,05 A) 15 th position only with: A, C, E, G	7	
		Auxiliary voltage DC 24 V to 48 V, binary input threshold DC 19 V <sup>4</sup> ) DC 60 V to 125 V <sup>3</sup> ), binary input threshold DC 19 V <sup>4</sup> ) DC 110 to 250 V <sup>3</sup> ), AC 115 V to 230 V, input threshold		
		<u>Construction</u> Surface-mounting housing, plug-in terminals, detached panel mounting in I.v. housing	i hmi, <b>a</b>	
		Surface-mounting housing, 2-tier terminals on top/botto	om <b>B</b>	
		Surface-mounting housing, screw-type terminals (direc ring-type cable lugs), detached HMI, panel mounting in		
		Flush-mounting housing, plug-in terminals (2/3 pin con	nector) D	
		Flush-mounting housing, screw-type terminals (direct-connection/ring-type cable lugs)	Ē	
		Surface-mounting housing, screw-type terminals (direc ring-type cable lugs), without HMI, panel mounting in I.		
		Surface-mounting housing, plug-in terminals, without H panel mounting in I.v. housing	III, G	
				(continued on next page)

1) RTD (resistance temperature detector) Box, 7XV5662-\*AD10 (at accessories communication)

2) Rated current 1/5 A can be selected by means of jumpers.

3) Transition between the two auxiliary voltage ranges can be selected by means of jumpers.

4) The thresholds of each binary input can be set via bridges. Settings deviant from the standard can be ordered via Z-variants Further information can be found in the MLFB sheet in the sharepoint (Intranet).