Product description	Variants	Order No.

Multifunction protection relay with control and RTD [1] interface

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

Housing, inputs and outputs

Housing 1/3 19",4L-Text-Disp. 3x*V*, 4x*I* , 8 BI, 8 BO, 1 Life contact	1
Housing 1/3 19",4L-Text-Disp. 3x*V*, 4x*I* , 11 BI, 6 BO, 1 Life contact	2
Housing 1/3 19",4L-Text-Disp. 4x*V*, 4x*I* , 8 BI, 8 BO, 1 Life contact	3
Housing 1/3 19",4L-Text-Disp. 4x*V*, 4x*I* , 11 BI, 6 BO, 1 Life contact	4
Housing 1/2 19", Graph.-Disp., 4x*V*, 4x*I* , 8 BI, 8 BO, 1 Life contact	5
Housing 1/2 19", Graph.-Disp., 4x*V*, 4x*I* , 11 BI, 6 BO, 1 Life contact	6

Measuring inputs (3x*V*/4x*V*, 4x*I*)

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[2], I_e = sensitive (min. = 0,001 A) 15th position only with: B, D, F, H	2
I_{ph} = 5 A[2], I_e = 5 A[2] (min. = 0,25 A) 15th position only with: A, C, E, G	5
I_{ph} = 5 A[2], I_e = sensitive (min. = 0,001 A) 15th position only with: B, D, F, H	6
I_{ph} = 5 A[2], I_e = 1 A[2] (min. = 0,05 A) 15th position only with: A, C, E, G	7

Auxiliary voltage

DC 24 V to 48 V, binary input threshold DC 19 V	2
DC 60 V to 125 V[3], binary input threshold DC 19 V [4]	4
DC 110 V to 250 V[3]; AC 115 to 230 V, input threshold DC 88 V [4]	5
DC 110 V to 250 V[3]; AC 115 to 230 V, input threshold DC 176 V [4]	6

Construction

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

(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).

Overcurrent Protection
SIPROTEC 7SJ62

Product description	Variants	Order No.

Multifunction protection relay with control and RTD [1] interface — 7SJ62 □□ - □□□□ - □□□□ Short code □□□

(continued from previous page)

Region-specific default settings/ function versions and language settings

Region DE, 50 Hz, IEC-characteristics, language German (language changeable)	A
Region World, 50/60 Hz, ANSI/IEC-characteristics, language English (language changeable)	B
Region US, 60 Hz, ANSI-characteristics, language US-English (language changeable)	C
Region FR, ANSI/IEC-characteristics, language French (language changeable)	D
Region World, ANSI/IEC-characteristics, language Spanish (language changeable)	E
Region IT, ANSI/IEC-characteristics, language Italian (language changeable)	F
Region RU, ANSI/IEC-characteristics, language Russian (language changeable)	G

System port (on rear of device)

No system port	0
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-connector	3
Further protocols see supplement L	9

Short code

Further protocols see supplement L	L 0 □
PROFIBUS DP slave, RS485	A
PROFIBUS DP slave, optical 820 nm, double ring, ST-connector [2]	B
Modbus, RS485	D
Modbus, optical 820 nm, ST-connector [3]	E
DNP3.0, RS485	G
DNP3.0, optical 820 nm, ST-connector [3]	H
IEC 60870-5-103 Protocol, redundant, electrical RS485 [3]	P
IEC 61850, 100 Mbit Ethernet, electrical, double, RJ45-connector	R
IEC 61850, 100 Mbit Ethernet, with integrated switch optical, double, LC-connector [3]	S
DNP3 TCP + IEC 61850, 100 Mbit Ethernet, elec., double, RJ45-connector [4]	2 R
DNP3 TCP + IEC 61850, 100 Mbit Ethernet, optical, double, LC-connector [4]	2 S
Profinet + IEC 61850, 100 Mbit Ethernet, elec., double, RJ45-connector [4]	3 R
Profinet + IEC 61850, 100 Mbit Ethernet, optical, double, LC-connector [4]	3 S

Port C

No port	0
DIGSI 4/Modem, electric RS232	1
DIGSI 4/Modem/RTD-Box [1] , electrical RS485	2
DIGSI 4/Modem/RTD-Box [1], optical 820 nm, ST-connector	3

Measuring/fault recording

Fault recording	1
Slave pointer, mean values, min/max values fault 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**.
4) Starting from FW V4.90

Product description				Variants		Order No.				
						1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16				
Multifunction protection relay with control and RTD [1] interface						**7 S J 6 2** □ □ - □ □ □ □ □ -	□	□	□	□
(continued from previous page)				ANSI-No.						
Protection function packages					Control					
Basic version				50/51	Time-overcurrent protection TOC phase $I>$, $I>>$, $I>>>$, I_p,					
(contained in all options)				50N/51N	Earth protection TOC earth $I_E>$, $I_E>>$, $I_E>>>$, I_{Ep}					
				50N/51N	Ground-fault protection via insensitive IEE-function: $I_{EE}>$, $I_{EE}>>$, I_{EEp} [2]					
				50/50N	Flexible protection functions (index quantities derived from current):					
					Additional time overcurrent protection stages $I>>>>$					
				51V	Voltage dependent inverse-time overcurrent protection					
				49	Overload protection (with 2 time constants)					
				46	Negative sequence protection					
				37	Undercurrent monitoring					
				47	Phase sequence					
				59N/64	Displacement voltage					
				50BF	Circuit-breaker failure protection					
				74TC	Trip circuit supervision, 4 setting groups; cold load pick-up, Inrush blocking					
				86	Lock out					
■			V,P,f	27/59	Under/overvoltage		**F**	**E**		
				81O/U	Under/overfrequency					
				27/Q	Undervoltage controlled reactive power protection [4]					
				27,47,59(N)	Flexible protection functions (index quantities derived from current &					
				32,55,81R	Voltage): Voltage, power, p.f., rate-of-frequency-change-protection					
■		IEF	V,P,f		Intermittent earth-fault		**P**	**E**		
				27/59	Under/overvoltage					
				81O/U	Under/overfrequency					
				27/Q	Undervoltage controlled reactive power protection [4]					
				27,47,59(N)	Flexible protection functions (index quantities derived from current &					
				32,55,81R	Voltage): Voltage, power, p.f., rate-of-frequency-change-protection					
■	Dir			67/67N	Directional element for phase and earth currents		**F**	**C**		
■	Dir		V,P,f	67/67N	Directional element for phase and earth currents		**F**	**G**		
				27/59	Under/overvoltage					
				81O/U	Under/overfrequency					
				27/Q	Undervoltage controlled reactive power protection [4]					
				27,47,59(N)	Flexible protection functions (index quantities derived from current &					
				32,55,81R	Voltage): Voltage, power, p.f., rate-of-frequency-change-protection					
■	Dir	IEF	V,P,f	67/67N	Direction determination for overcurrent, phases and ground		**P**	**G**		[4]
					Intermittent earth-fault					
				27/59	Under-/overvoltage					
				81U/O	Under-/overfrequency					
				27/Q	Undervoltage controlled reactive power protection [4]					
				27/47/59(N)	Flexible protection functions (quantities derived from current & voltages):					
				32/55/81R	Voltage-/power-/p.f.-/rate of freq. change-protection					
■	Dir	IEF		67/67N	Directional element for phase and earth currents		**P**	**C**		
					Intermittent earth-fault					
Dir. S.EF	Dir			67/67N	Directional element for phase and earth currents		**F**	**D**		[3]
■				67Ns	Directional sensitive earth-fault detection					
				67Ns	Directional intermittent ground-fault protection [4]					
				87N	High-impedance restricted earth fault					

(continued on next page)

■ Basic version included
V,P,f = Voltage-, Power-, 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)
4) Starting from FW 4.90

Overcurrent Protection
SIPROTEC 7SJ62

Product description				Variants		Order No.
						1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
Multifunction protection relay with control and RTD [1] interface						**7 S J 6 2** □ □ - □ □ □ □ □ - □ □ □ □
Protection function packages				ANSI-No.		
(continued from previous page)					Control	
Basic version				50/51	Time-overcurrent protection TOC phase $I>$, $I>>$, $I>>>>$, I_p,	
(contained in all options)				50N/51N	Earth protection TOC earth $I_E>$, $I_E>>$, $I_E>>>$, I_{Ep}	
				50N/51N	Ground-fault protection via insensitive IEE-function: $I_{EE}>$, $I_{EE}>>$, I_{EEp} [2]	
				50/50N	Flexible protection functions (index quantities derived from current): Additional time overcurrent protection stages $I>>>>$	
				51V	Voltage dependent inverse-time overcurrent protection	
				49	Overload protection (with 2 time constants)	
				46	Negative sequence protection	
				37	Undercurrent monitoring	
				47	Phase sequence	
				59N/64	Displacement voltage	
				50BF	Circuit-breaker failure protection	
				74TC	Trip circuit supervision, 4 setting groups; cold load pick-up, Inrush blocking	
				86	Lock out	
Dir. S.EF	Dir	IEF		67/67N	Directional element for phase and earth currents	**P D** [3]
■				67Ns	Directional sensitive earth-fault detection	
				67Ns	Directional intermittent ground-fault protection [4]	
				87N	High-impedance restricted earth fault	
					Intermittent earth-fault	
Dir. S.EF			V,P,f	67Ns	Directional sensitive earth-fault detection	**F F** [3]
■				67Ns	Directional intermittent ground-fault protection [4]	
				87N	High-impedance restricted earth fault	
				27/59	Under/overvoltage	
				81O/U	Under/overfrequency	
				27/Q	Undervoltage controlled reactive power protection [4]	
				27,47,59(N) 32,55,81R	Flexible protection functions (index quantities derived from current & voltage): Voltage, power, p.f., rate-of-frequency-change-protection	
Dir. S.EF				67Ns	Directional sensitive earth-fault detection	**F B** [3]
				67Ns	Directional intermittent ground-fault protection [4]	
				87N High	impedance restricted earth fault	
Dir. S.EF	Motor		V,P,f	67Ns	Directional sensitive earth-fault detection	**H F** [3]
■				67Ns	Directional intermittent ground-fault protection [4]	
				87N	High-impedance restricted earth fault	
				48/14	Starting time supervision, locked rotor	
				66/86	Restart inhibit	
				51M	Motor load-jam protection , motor statistics	
				27/59	Under/overvoltage	
				81O/U	Under/overfrequency	
				27/Q	Undervoltage controlled reactive power protection [4]	
				27,47,59(N) 32,55,81R	Flexible protection functions (index quantities derived from current & voltage): Voltage, power, p.f., rate-of-frequency-change-protection	
Dir. S.EF	Motor	Dir	V,P,f	67/67N	Directional element for phase and earth currents	**H H** [3]
■				67Ns	Directional sensitive earth-fault detection	
				67Ns	Directional intermittent ground-fault protection [4]	
				87N	High-impedance restricted earth fault	
				48/14	Starting time supervision, locked rotor	
				66/86	Restart inhibit	
				51M	Motor load-jam protection , motor statistics	
				27/59	Under/overvoltage	
				81O/U	Under/overfrequency	
				27/Q	Undervoltage controlled reactive power protection [4]	
				27,47,59(N) 32,55,81R	Flexible protection functions (index quantities derived from current & voltage): Voltage, power, p.f., rate-of-frequency-change-protection	

(continued on next page)

■ Basic version included
V,P,f = Voltage-, Power-, 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)
4) Starting from FW 4.90

Product description					Variants		Order No.				
							1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16				
Multifunction protection relay with control and RTD [1] interface							**7 S J 6 2 □ □ - □ □ □ □ □ - □**	**□**	**□**	**□**
Protection function packages					ANSI-No.					
(continued from previous page)						Control				
Basic version					50/51	Time-overcurrent protection TOC phase $I>$, $I>>$, $I>>>$, I_p,				
(contained in all options)					50N/51N	Earth protection TOC earth $I_E>$, $I_E>>$, $I_E>>>$, I_{Ep}				
					50N/51N	Ground-fault protection via insensitive IEE-function: $I_{EE}>$, $I_{EE}>>$, I_{EEp} [2]				
					50/50N	Flexible protection functions (index quantities derived from current): Additional time overcurrent protection stages $I>>>>$				
					51V	Voltage dependent inverse-time overcurrent protection				
					49	Overload protection (with 2 time constants)				
					46	Negative sequence protection				
					37	Undercurrent monitoring				
					47	Phase sequence				
					59N/64	Displacement voltage				
					50BF	Circuit-breaker failure protection				
					74TC	Trip circuit supervision, 4 setting groups; cold load pick-up, Inrush blocking				
					86	Lock out				
Dir. S.EF	Motor	Dir	IEF	V,P,f	67/67N	Directional element for phase and earth currents		**R**	**H**	[3]
■					67Ns	Directional sensitive earth-fault detection				
					67Ns	Directional intermittent ground-fault protection [6]				
					87N	High-impedance restricted earth fault				
						Intermittent earth-fault				
					48/14	Starting time supervision, locked rotor				
					66/86	Restart inhibit				
					51M	Motor load-jam protection , motor statistics				
					27/59	Under/overvoltage				
					81O/U	Under/overfrequency				
					27/Q	Undervoltage controlled reactive power protection [5]				
					27,47,59(N)	Flexible protection functions (index quantities derived from current &				
					32,55,81R	voltage): Voltage, power, p.f., rate-of-frequency-change-protection				
■	Motor	Dir		V,P,f	67/67N	Directional element for phase and earth currents		**H**	**G**	
					48/14	Starting time supervision, locked rotor				
					66/86	Restart inhibit				
					51M	Motor load-jam protection , motor statistics				
					27/59	Under/overvoltage				
					81O/U	Under/overfrequency				
					27/Q	Undervoltage controlled reactive power protection [5]				
					27,47,59(N)	Flexible protection functions (index quantities derived from current &				
					32,55,81R	voltage): Voltage, power, p.f., rate-of-frequency-change-protection				
■	Motor				48/14	Starting time supervision, locked rotor		**H**	**A**	
					66/86	Restart inhibit				
					51M	Motor load-jam protection , motor statistics				
ARC, fault locator, synchro-check						without				**0**
					79	with autoreclose				**1**
					21FL	with fault locator				**2**
					79/21FL	with autoreclose, with fault locator				**3**
					25	with synchro-check [4]				**4**
					25/79/21FL	with synchro-check [4] , with autoreclose, with fault locator				**7**

■ Basic version included
V,P,f = Voltage-, Power-, 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)
4) Synchron-check (no asynchronous switching), one function group; available with devices 7SJ623, 7SJ624, 7SJ625 and 7SJ626.
5) Starting from FW 4.90