Product description	Variants	Order No.
Multifunction protection relay with local control		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 Short code **7 S J 6 6** □ □ - □ □ □ □ □ - □ □ □ □ □ □ □
	<u>Housing, binary inputs and outputs</u>	
	Housing1/3 19"; 4xU, 4xI, 16 BI, 7 BO, 1 Life contact	**1**
	Housing 1/3 19"; 4xU, 4xI, 22 BI, 10 BO, 1 Life contact	**2**
	Housing 1/2 19"; 4xU, 4xI, 36 BI, 23 BO, 1 Life contact, 4 Function keys	**3**
	<u>Measuring inputs (4xV, 4xI)</u>	
	I_{ph} = 1 A, I_e = 1 A (min. = 0,05 A) 15th position only with: A, C, E, G	**1**
	I_{ph} = 1 A, I_e = sensitive (min. = 0,001 A) 15th position only with B, D, F, H	**2**
	I_{ph} = 5 A, I_e = 5 A (min. = 0,25 A) 15th position only with A, C, E, G	**5**
	I_{ph} = 5 A, I_e = sensitive (min. = 0,001 A) 15th position only with B, D, F, H	**6**
	<u>Auxiliary voltage</u>	
	DC 110 to 250 V, AC 115 to 230 V, binary input threshold DC 69 V	**5**
	DC 110 to 250 V, AC 115 to 230 V, binary input threshold DC 138 V	**6**
	<u>Construction</u>	
	Flush-mounting housing, spring-type terminals (direct connection), screw-type terminals for current-transformer connection (direct connection/ring lug), 8L-text-Disp.	**E**
	Flush-mounting housing, spring-type terminals (direct connection), screw-type terminals for current-transformer connection (direct connection/ring lug), graphical display	**K**
	<u>Region-specific default settings/function versions and language settings</u>	
	Region world, 50/60 Hz, IEC/ANSI--characteristics, language English (language changeable)	**B**
	Region world, 50/60 Hz, IEC/ANSI--characteristics, language Spanish (language changeable)	**E**
	Region RU, 50/60 Hz, IEC/ANSI--characteristics, language Russian (language changeable)	**G**
	<u>Port B (System port)</u>	
	No system port	**0**
	IEC 60870-5-103 protocol, RS485 [1]	**2**
	Modbus, RS485 [1]	**9** — Short code: **L 0 D**
	IEC 61850, 100 Mbit Ethernet, electrical double, RJ45- connector [2]	**9** — Short code: **L 0 R**
	<u>Port C (Service port)</u>	
	No service port	**0**
	DIGSI 4/Modem/ RTD-Box, electrical RS485	**2**
	Ethernet interface (DIGSI, RTD-Box, no IEC61850), RJ45-connector	**6**

(continued on next page)

1) Only available with position 12 = **0** or **2.**
2) Only available with position 12 = **0** or **6**.

Overcurrent Protection
SIPROTEC 7SJ66

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 local control			7 S J 6 6 □ □ - □ □ □ □ □ - □ □ □ □
(continued from previous page)			
	ANSI-Nr.		
Basic version		Control	F A
(contained in all options)	50/51	Overcurrent protection I >, I >>, I >>>, I_p	
	50N/51N	Earth-fault protection TOC earth I_E >, I_E >>, I_E >>>, I_{Ep}	
	50N/51N	Ground-fault protection via insensitive I_{EE}-function: I_{EE} >, I_{EE} >>, I_{EEp} 1)	
	50/50N	Flexible protection functions (index quantities derived from current):	
		Additional time-overcurrent protection stages I>>>>, I_2	
	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	
Basic version V,P,f		Basic version included	F E
	27/59	Under/overvoltage	
	81U/O	Under/overfrequency	
	27/Q	Undervoltage controlled reactive power protection	
	27/47/59(N)	Flexible protection funtions (index quantities derived from current & voltage):	
	32/55/81R	voltage, power, p.f., rate-of-frequency-change-protection	
Basic version IEF V,P,f		Basic version included	P E
		Intermittent earth-fault	
	27/59	Under/overvoltage	
	81U/O	Under/overfrequency	
	27/Q	Undervoltage controlled reactive power protection	
	27/47/59(N)	Flexible protection funtions (index quantities derived from current & voltage):	
	32/55/81R	voltage, power, p.f., rate-of-frequency-change-protection	
Basic Dir		Basic version included	F C
	67/67N	Directional element for phase and earth currents	
Basic version Dir V,P,f		Basic version included	F G
	67/67N	Directional element for phase and earth currents	
	27/59	Under/overvoltage	
	81U/O	Under/overfrequency	
	27/Q	Undervoltage controlled reactive power protection	
	27/47/59(N)	Flexible protection funtions (index quantities derived from current & voltage):	
	32/55/81R	voltage, power, p.f., rate-of-frequency-change-protection	
Basic version Dir IEF V,P,f		Basic version included	P G
	67/67N	Directional element for phase and earth currents	
	27/59	Under/overvoltage	
	81U/O	Under/overfrequency	
	27/Q	Undervoltage controlled reactive power protection	
	27/47/59(N)	Flexible protection funtions (index quantities derived from current & voltage):	
	32/55/81R	voltage, power, p.f., rate-of-frequency-change-protection	
		Intermittent earth-fault	
Basic version Dir IEF		Basic version included	P C
	67/67N	Directional element for phase and earth currents	
		Intermittent earth-fault	

(continued on next page)

Motor = Motor protection
Dir = Directional overcurrent protection
V, P, f = Voltage-, Power-, frequency protection
IEF= Intermittent earth-fault

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

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 local control			7 S J 6 6 □ □ - □ □ □ □ □ - □ □ □ □
(continued from previous page)			
	ANSI-Nr.		
Basic version		Basic version included	F D
Dir. S.E Dir 2)	67/67N	Directional element for phase and earth currents	
	67Ns	Directional sensitive earth-fault detection	
	67Ns	Directional intermittent ground-fault protection	
	87N	High-impedance restricted earth fault	
Basic version		Basic version included	P D
Dir. S.EF Dir IEF 2)	67/67N	Directional element for phase and earth currents	
	67Ns	Directional sensitive earth-fault detection	
	67Ns	Directional intermittent ground-fault protection	
	87N	High-impedance restricted earth fault	
		Intermittent earth-fault	
Basic version		Basic version included	
Dir. S.EF V,P,f 2)		Control	F F
	67Ns	Directional sensitive earth-fault detection	
	67Ns	Directional intermittent ground-fault protection	
	87N	High-impedance restricted earth fault	
	27/59	Under/overvoltage	
	81U/O	Under/overfrequency	
	27/Q	Undervoltage controlled reactive power protection	
	27/47/59(N)	Flexible protection function(current and voltage parameters):	
	32/55/81R	voltage-, power-, power faktor-, rate-of-frequency change	
Basic version		Basic version included	F B
Dir. S.EF 2)	67Ns	Directional sensitive earth-fault detection	
	67Ns	Directional intermittent ground-fault protection	
	87N	High-impedance restricted earth fault	
Basic version,		Basic version included	H F
Dir. S.EF Motor	67Ns	Directional sensitive earth-fault detection	
V,P,f 2)	67Ns	Directional intermittent ground-fault protection	
	87N	High-impedance restricted earth fault	
	48/14	Starting time supervision, locked rotor	
	66/86	Restart inhibit	
	51M	Motor load-jam protection , motor statistics	
		Motor statistics	
	27/59	Under/overvoltage	
	81U/O	Under/overfrequency	
	27/Q	Undervoltage controlled reactive power protection	
	27/47/59(N)	Flexible protection function(current and voltage parameters):	
	32/55/81R	voltage-, power-, power factor-, rate-of-frequency change	
Basic version		Basic version included	H H
Dir. S.EF Motor	67/67N	Directional element for phase and earth currents	
RMZ V,P,f 2)	67Ns	Directional sensitive earth-fault detection	
	67Ns	Directional intermittent ground-fault protection	
	87N	High-impedance restricted earth fault	
	48/14	Starting time supervision, locked rotor	
	66/86	Restart inhibit	
	51M	Motor load-jam protection , motor statistics	
		Motor statistics	
	27/59	Under/overvoltage	
	81U/O	Under/overfrequency	
	27/Q	Undervoltage controlled reactive power protection	
	27/47/59(N)	Flexible protection function(current and voltage parameters):	
	32/55/81R	voltage-, power-, power factor-, rate-of-frequency change	

(continued on next page)

Motor = Motor protection
Dir = Directional overcurrent protection
V, P, f = Voltage-, Power-, frequency protection
IEF= Intermittent earth-fault

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

Overcurrent Protection
SIPROTEC 7SJ66

Product description	Variants		Order No.
Multifunction protection relay with local control			1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 **7 S J 6 6** □ □ - □ □ □ □ □ - □ □ □ □
(continued from previous page)			
	ANSI-Nr.		
Basic version		Basic version included	**R H** 2)
Dir. S.EF Motor	67/67N	Directional element for phase and earth currents	
	67Ns	Directional sensitive earth-fault detection	
	67Ns	Directional intermittent ground-fault protection	
	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	
		Motor statistics	
	27/59	Under/overvoltage	
	81U/O	Under/overfrequency	
	27/Q	Undervoltage controlled reactive power protection	
	27/47/59(N)	Flexible protection function(current and voltage parameters):	
	32/55/81R	voltage-, power-, power factor-, rate-of-frequency change	
Basic version Motor		Basic version included	**H G**
Dir. V,P,f	67/67N	Directional element for phase and earth currents	
	48/14	Starting time supervision, locked rotor	
	66/86	Restart inhibit	
	51M	Motor load-jam protection , motor statistics	
		Motor statistics	
	27/59	Under/overvoltage	
	81U/O	Under/overfrequency	
	27/Q	Undervoltage controlled reactive power protection	
	27/47/59(N)	Flexible protection function(current and voltage parameters):	
	32/55/81R	voltage-, power-, power factor-, rate-of-frequency change	
Basic version Motor		Basic version included	**H A**
	48/14	Starting time supervision, locked rotor	
	66/86	Restart inhibit	
	51M	Motor load-jam protection , motor statistics	
Measuring/fault recording		Measuring/fault recording	**1**
		Slave pointer, average values, min/max-values with fault recording	**3**
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 3)	**4**
	25/79/21FL	with synchro-check 3), with auto reclose, with fault recorder	**7**

Motor = Motor protection
Dir = Directional overcurrent protection
V, P, f = Voltage-, Power-, frequency protection
IEF= Intermittent earth-fault

2) Only with position 7 = **2, 6** (sensitive earth current input).
3) Synchron-check (no asynchronous switching), one function group.