

Technical specifications

Shared data of basic unit/expansion unit/ expansion module/operator panel		
Permissible ambient temperature	°C	-25 ... +60
Permissible storage temperature	°C	-40 ... +80
Installation altitude above sea level	m	≤ 2000
Degree of protection (according to IEC 60529)		IP20 max. set current $I_e \leq 100$ A; IP00 max. set current $I_e > 100$ A
Shock resistance (sine pulse)	g/ms	10/5
Mounting position		Any
Mounting		
• Max. set current $I_e \leq 100$ A		Snap-on mounting onto 35 mm standard mounting rail or screw fixing with push-in lugs
• Max. set current $I_e > 100$ A		Screw fixing directly onto contactor or screw fixing
EMC interference immunity		
• Line-induced interference, burst according to IEC 61000-4-4	kV	2 (corresponds to degree of severity 3)
• Line-induced interference, surge according to IEC 61000-4-5	kV	2 (corresponds to degree of severity 3)
• Electrostatic discharge according to IEC 61000-4-2	kV	8 (corresponds to degree of severity 3)
• Field-related interference according to IEC 61000-4-3	V/m	10 (corresponds to degree of severity 3)
EMC interference emission		Limit class B according to EN 55011 (VDE 0875 Part 11)
Safe isolation (product version 12 upwards, start of delivery 01/2000)		All circuits in SIMOCODE-DP are safely isolated from each other, i.e. they are designed with doubled creepage paths and clearances Power circuit from the control/electronic circuits: Safe isolation up to 690 V or 1000 V between control and electronic circuits One below the other: Safe isolation up to 300 V Observe notes of test report "Safe Isolation" No. 1610a.

Basic unit		
Display		
• Green "Ready" LED		• Continuous light: "Ready"
		• Off: "No control supply voltage" or "Function test not OK; device is disabled"
• Green "Bus" LED		• Continuous light: "Bus operation"
• Red "General fault" LED		• Continuous light/blinklight: "Feeder fault", e.g. overload trip
Test/Reset button		By pressing the Test/Reset button, the device can be reset following a trip or its functions can be tested
System interface		RS 232 for connecting the expansion module, operator panel or PC
PROFIBUS DP interface		RS 485 for connecting the Profibus DP line using terminals (conductor cross-sections as for auxiliary contacts) or 9-pole SUB D socket

Main circuit

Rated insulation voltage U_i (degree of pollution 3)			
• For uninsulated conductors (3UF5 001 to 3UF5 021)	V	690	
• For insulated conductors (3UF5 001 to 3UF5 021)	V	1000	
• For uninsulated and insulated conductors (3UF5 031 to 3UF5 051)	V	1000	
Rated impulse withstand voltage U_{imp}			
• 3UF5 001 to 3UF5 021	kV	6	
• 3UF5 031 to 3UF5 051	kV	8	
Rated frequency	Hz	50 / 60	
Type of current		Three-phase current	
Short-circuit protection		See table <i>Short-circuit protection with fuses for motor feeders</i> , page 7/31	
Diameter of feed-through openings (max. $I_e = 100$ A)			
• Devices with max. set current $I_e \leq 25$ A	mm	10	
• Devices with max. set current $I_e \leq 100$ A	mm	15	
• Devices with max. set current $I_e > 100$ A		Design with connecting bars	
Busbar connections			
• Current range	A	50 ... 205	125 ... 500
• Tightening torque	Nm	M 8: 10 ... 14	M 10: 14 ... 24
			M 12: 20 ... 35
• Finely stranded with cable lug	mm ²	35 ... 95	50 ... 240
• Stranded with cable lug	mm ²	50 ... 120	70 ... 240

SIMOCODE 3UF Motor Management and Control Devices

SIMOCODE-DP 3UF5 motor protection and control devices

Auxiliary circuit/control circuit

Rated control supply voltage U_s		AC 50/60 Hz; 115 V and 230 V	24 V DC
Operating range		AC 50/60 Hz 0.85 ... 1.1 × U_s	24 V DC; 0.85 ... 1.2 × U_s
Power consumption		AC 50/60 Hz; 5 VA	24 V DC; 5 W
Rated insulation voltage U_i	V	300 (at degree of pollution 3)	
Rated impulse withstand voltage U_{imp}	kV	4	
Outputs		4 monostable/bistable outputs depending on the variant	
• Number		NC contact response can be parameterized with internal signal conditioning, 3 outputs are jointly and 1 is separately connected to a common potential; they can be freely assigned to the control functions (e.g. for activating line, star and delta contactors and for signaling the operating state)	
• Auxiliary contacts of the 4 outputs		Fuse links, gL/gA operational class 6 A, quick 10 A; miniature circuit breaker 1.6 A, C characteristic	
• Specified short-circuit protection for auxiliary contacts (relay outputs)			
Rated uninterrupted current	A	5	
Rated operational current (switching capacity)		AC-15; 6 A/24 V; 6 A/120 V; 3 A/230 V DC-13; 2 A/24 V; 0.55 A/60 V; 0.25 A/125 V	
Inputs		4 inputs, supplied by the device electronics (24 V DC), jointly connected to a common potential, for injecting process signals such as local control points, key-operated switches or limit switches	
Thermistor motor protection (binary PTC thermistor)			
• Summation cold resistance	k Ω	1.5	
• Response value	k Ω	2.7 ... 3.1	
• Return value	k Ω	1.5 ... 1.65	
Conductor cross-sections			
• Tightening torque	Nm	0.8 ... 1.2	
• Solid and stranded	mm ²	1 × (0.5 ... 4.0); 2 × (0.5 ... 2.5)	
• Finely stranded with or without end sleeve	mm ²	1 × (0.5 ... 2.5); 2 × (0.5 ... 1.5)	

Expansion module

System interface		RS 232 as connection to the basic unit and for connecting the operator panel or PC	
Rated insulation voltage U_i	V	300 (at degree of pollution 3)	
Rated impulse withstand voltage U_{imp}	kV	4	
Outputs		4 bistable outputs	
• Number		Each with 1 floating NO contact, NC contact response can be parameterized with internal signal conditioning, 3 outputs are jointly and 1 is separately connected to a common potential; they can be freely assigned to the control functions (e.g. for activating line, star and delta contactors and for signaling the operating state)	
• Auxiliary contacts of the 4 outputs		Fuse links, operational class gL/gA 6 A, quick10 A; circuit breaker 1.6 A, C characteristic	
• Specified short-circuit protection for auxiliary contacts (relay outputs)			
Rated uninterrupted current	A	5	
Rated operational current (switching capacity)		AC-15; 6 A/24 V; 6 A/120 V; 3 A/230 V DC-13; 2 A/24 V; 0.55 A/60 V; 0.25 A/125 V	
Inputs		8 externally supplied with 24 V DC, 115 V AC or 230 V AC depending on the variant, jointly connected to a common potential, for injecting process signals such as local control points, key-operated switches or limit switches	
Conductor cross-sections			
• Tightening torque	Nm	0.8 ... 1.2	
• Solid and stranded	mm ²	1 × (0.5 ... 4.0); 2 × (0.5 ... 2.5)	
• Finely stranded with or without end sleeve	mm ²	1 × (0.5 ... 2.5); 2 × (0.5 ... 1.5)	

Operator panel

Displays		<ul style="list-style-type: none"> • Continuous light: "Ready" • Off: "No control supply voltage" or "Function test not OK; • Device is disabled" Continuous light/blinklight: "Feeder fault", e.g. overload trip Feeder-specific displays, freely-assignable, e.g. manual/automatic mode, tripping of thermistor motor protection, clockwise/counterclockwise rotation etc.	
• Green "Ready" LED			
• Red "General fault" LED			
• 3 green and 3 yellow LEDs			
Keys		By pressing the Test/Reset button, the device can be reset following a trip or its functions can be tested For controlling the motor feeder, freely programmable	
• Test/Reset			
• Control keys			
System interface		RS 232 as connection to the basic unit, to the expansion module and for connection to PC	

SIMOCODE 3UF Motor Management and Control Devices

SIMOCODE-DP 3UF5 motor protection and control devices

Short-circuit protection with fuses for motor feeders
with short-circuit currents up to 50 kA at 690 V for 3RB1 2 and 3UF5 0, Part 1

Basic unit	Contactors	Class 5 and 10			Class 15			Class 20			Class 25			Class 30		
		Rated operational current I_e AC-3 in A at ... V														
		400	500	690	400	500	690	400	500	690	400	500	690	400	500	690
Setting range 1.25 ... 6.3 A																
3UF5 00	3RT1 015	6.3	5.0	4.0	6.3	5.0	4.0	6.3	5.0	4.0	6.3	5.0	4.0	6.3	5.0	4.0
	3RT1 016	6.3	6.3	5.2	6.3	6.3	5.2	6.3	6.3	5.2	6.3	6.3	5.2	6.3	6.3	5.2
	3RT1 017	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Setting range 6.3 ... 25 A																
3UF5 01	3RT1 015	7.0			7.0			7.0			7.0			7.0		
	3RT1 016	9.0	6.5		9.0	6.5		9.0	6.5		9.0	6.5		9.0	6.5	
	3RT1 017	12.0	9.0	6.3	11.0	9.0	6.3	10.0	9.0	6.3	9.5	9.0	6.3	9.0	9.0	6.3
	3RT1 024	12.0	12.0	9.0	12.0	12.0	9.0	12.0	12.0	9.0	12.0	12.0	9.0	12.0	12.0	9.0
	3RT1 025	17.0	17.0	13.0	17.0	17.0	13.0	16.0	16.0	13.0	15.0	15.0	13.0	14.0	14.0	13.0
	3RT1 026	25.0	18.0	13.0	18.0	18.0	13.0	16.0	16.0	13.0	15.0	15.0	13.0	14.0	14.0	13.0
	3RT1 034	25.0	25.0	20.0	25.0	25.0	20.0	22.3	22.3	20.0	20.3	20.3	20.3	19.1	19.1	19.1
	3RT1 035	25.0	25.0	24.0	25.0	25.0	24.0	25.0	25.0	24.0	25.0	25.0	24.0	25.0	25.0	24.0
Setting range 25 ... 100 A																
3UF5 02	3RT1 034	32.0	32.0	20.0	25.5	25.5	20.0	22.3	22.3	20.0	20.3	20.3	20.0	19.1	19.1	19.1
	3RT1 035	40.0	40.0	24.0	33.0	33.0	24.0	29.4	29.4	24.0	28.0	28.0	24.0	26.5	26.5	24.0
	3RT1 036	50.0	50.0	24.0	38.5	38.5	24.0	32.7	32.7	24.0	29.4	29.4	24.0	26.5	26.5	24.0
	3RT1 044	65.0	65.0	47.0	56.0	56.0	47.0	49.0	49.0	47.0	45.0	45.0	45.0	41.7	41.7	41.7
	3RT1 045	80	80	58	61	61	58	53	53	53	47	47	47	45	45	45
	3RT1 046	95	95	58	69	69	58	59	59	58	53	53	53	50	50	50
Setting range 50 ... 205 A																
3UF5 03	3RT1 054	115	115	115	93	93	93	82	82	82	75	75	75	69	69	69
	3RT1 055	150	150	150	122	122	122	107	107	107	98	98	98	90	90	90
	3RT1 056	185	185	170	150	150	150	131	131	131	120	120	120	111	111	111
Setting range 125 ... 500 A																
3UF5 04	3RT1 064	225	225	225	182	182	182	160	160	160	146	146	146	135	135	135
	3RT1 065	265	265	265	215	215	215	188	188	188	172	172	172	159	159	159
	3RT1 066	300	300	280	243	243	243	213	213	213	195	195	195	180	180	180
	3RT1 075	400	400	400	324	324	324	284	284	284	260	260	260	240	240	240
	3RT1 076	500	500	450	405	405	405	355	355	355	325	325	325	300	300	300
	3RT1 264	225	225	225	225	225	225	225	225	225	194	194	194	173	173	173
	3RT1 265	265	265	265	265	265	265	265	265	265	228	228	228	204	204	204
	3RT1 266	300	300	300	300	300	300	300	300	300	258	258	258	231	231	231
	3RT1 275	400	400	400	400	400	400	400	400	400	344	344	344	308	308	308
	3RT1 276	500	500	500	500	500	500	500	500	500	430	430	430	385	385	385
Setting range 200 ... 820 A																
3UF5 05	3TF6 8 ¹⁾	630	630	630	502	502	502	440	440	440	408	408	408	376	376	376
	3TF6 9 ¹⁾	820	820	820	662	662	662	572	572	572	531	531	531	500	500	500

¹⁾ Contactors mountable.

SIMOCODE 3UF Motor Management and Control Devices

SIMOCODE-DP 3UF5 motor protection and control devices

Short-circuit protection with fuses for motor feeders
with short-circuit currents up to 50 kA at 690 V for 3RB1 2 and 3UF5 0, Part 2

Basic unit	Contactors	Fuse links ²⁾				
		690 V		415 V		600 V
		LV HRC DIAZED NEOZED Operational class gL (gG)	Type 3NA Type 5SB Type 5SE	Type 3ND aM	British Standards fuses BS88	UL-listed fuses RK5/L
		Type of coordination ³⁾				
		1	2	2	2	500
Setting range 1.25 ... 6.3 A						
3UF5 00	3RT1 015	35	20		20	25
	3RT1 016	35	20		20	25
	3RT1 017	35	20		20	25
Setting range 6.3 ... 25 A						
3UF5 01	3RT1 015	35	20		20	60
	3RT1 016	35	20		20	60
	3RT1 017	35	20		20	60
	3RT1 024	63	25	20	25	70
	3RT1 025	63	25	20	25	70
	3RT1 026	100	35	20	25	100
	3RT1 034	125	63	50	63	100
	3RT1 035	125	63	50	63	100
Setting range 25 ... 100 A						
3UF5 02	3RT1 034	125	63	50	63	125
	3RT1 035	125	63	50	80	150
	3RT1 036	160	80	50	80	200
	3RT1 044	250	125	63	125	250
	3RT1 045	250	160	80	160	250
	3RT1 046	250	160	100	160	350
Setting range 50 ... 205 A						
3UF5 03	3RT1 054	355	315	160	250	450
	3RT1 055	355	315	200	315	500
	3RT1 056	355	315	200	315	500
Setting range 125 ... 500 A						
3UF5 04	3RT1 064	500	400	250	400	700
	3RT1 065	500	400	315	400	800
	3RT1 066	500	400	315	400	800
	3RT1 075	630	400	400	450	1000
	3RT1 076	630	500	500	500	1200
	3RT1 264	500	500	400	450	800
	3RT1 265	500	500	400	450	800
	3RT1 266	500	500	400	450	800
	3RT1 275	800	800	630	800	1200
	3RT1 276	800	800	630	800	1200
	Setting range 200 ... 820 A					
3UF5 05	3TF6 8 ¹⁾	1000	500 ⁴⁾	630	500	1200
	3TF6 9 ¹⁾	1250	630 ⁴⁾	630	630	2000 CLASS L

¹⁾ Contactors mountable.

²⁾ Note the operational voltage.

³⁾ Assignment and short-circuit protective devices according to IEC 60947-4-1:

Type of coordination 1: Contactors or starters must not endanger persons or equipment in the event of a short-circuit. They do not have to be suitable for further operation without repair and the renewal of parts.

Type of coordination 2: Contactors or starters must not endanger persons or equipment in the event of a short-circuit and must be suitable for continued use. There is a risk of contact welding.

⁴⁾ Ensure that the maximum AC-3 operational current is sufficiently different from the rated fuse current.