

Motor Protection Circuit Breaker Series 8527/2

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02966E00

- > For protection of Ex e and Ex d motors
- > Protects cables and plant equipment
- > Adjustable thermal overload release, phase failure sensitive
- > Electromagnetic instantaneous release
- > Robust enclosure made of glass fibre reinforced polyester resin
- > Optionally with
 - undervoltage release
 - shunt release
 - ammeter
 - auxiliary contacts



E7

Motor protection circuit breakers of Series 8527 are used where high short circuit currents are to be controlled and to protect both Ex e and Ex d motors. These switches are suitable to protect cables and the installation and can basically be used without a back-up fuse at 400 V.

Breakers are operated by rotary handles enabling next to secure switching also to identify clearly switch settings.

	ATEX / IECEx / GOST					
Zone	0	1	2	20	21	22
For use in		x	x		x	x

WebCode 8527A

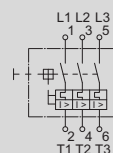
Motor Protection Circuit Breaker Series 8527/2



WWW.CABLEJOINTS.CO.UK
THORNE & DERRICK UK
TEL 0044 191 490 1547 FAX 0044 477 5371
TEL 0044 117 977 4647 FAX 0044 977 5582

Selection Table

Version	without accessories			
	Current adjustment range	Auxiliary contacts	Order number	Weight
Motor protection circuit breakers without accessories Series 8527	0.1 ... 0.16 A	without	8527/21-01-0001	2.591
	0.1 ... 0.16 A	1 NC + 1 NO	8527/22-01-0201	2.610
	0.16 ... 0.25 A	without	8527/21-02-0001	2.608
		1 NC + 1 NO	8527/22-02-0201	2.630
	0.25 ... 0.4 A	without	8527/21-03-0001	2.610
		1 NC + 1 NO	8527/22-03-0201	2.630
	0.4 ... 0.63 A	without	8527/21-04-0001	2.574
		1 NC + 1 NO	8527/22-04-0201	2.595
	0.63 ... 1 A	without	8527/21-05-0001	2.600
		1 NC + 1 NO	8527/22-05-0201	2.620
	1 ... 1.6 A	without	8527/21-06-0001	2.653
		1 NC + 1 NO	8527/22-06-0201	2.670
	1.6 ... 2.5 A	without	8527/21-07-0001	2.633
		1 NC + 1 NO	8527/22-07-0201	2.650
	2.5 ... 4 A	without	8527/21-08-0001	2.630
		1 NC + 1 NO	8527/22-08-0201	2.650
	4 ... 6.3 A	without	8527/21-09-0001	2.600
		1 NC + 1 NO	8527/22-09-0201	2.620
	6.3 ... 9 A	without	8527/21-10-0001	2.600
		1 NC + 1 NO	8527/22-10-0201	2.620
	9 ... 12.5 A	without	8527/21-11-0001	2.500
		1 NC + 1 NO	8527/22-11-0201	2.520
	12.5 ... 16 A	without	8527/21-12-0001	2.400
		1 NC + 1 NO	8527/22-12-0201	2.420
	16 ... 20 A	without	8527/23-13-0002	4.200
		1 NC + 1 NO	8527/24-13-0202	3.520
	20 ... 22.5 A	without	8527/23-14-0002	3.500
		1 NC + 1 NO	8527/24-14-0202	3.520
On request: • Circuit breakers for the current adjustment range 25 ... 63 A (Type 8525) • Further accessories e. g. shunt release, ammeter, additional auxiliary contacts (2 NC + 2 NO)				



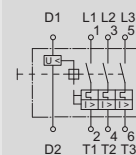
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Motor Protection Circuit Breaker

Series 8527/2

Selection Table

Version	Current adjustment range	Rated operational voltage U_e	Auxiliary contacts	with undervoltage trip	
				Order number	Weight
Motor protection circuit breakers with undervoltage release Series 8527	0.1 ... 0.16 A	230 V AC 50 / 60 Hz	without 1 NC + 1 NO	8527/21-01-1061	2.610
				8527/22-01-1261	2.610
		400 V AC 50 / 60 Hz	without 1 NC + 1 NO	8527/21-01-1071	2.610
				8527/22-01-1271	2.610
		500 V AC 50 / 60 Hz	without 1 NC + 1 NO	8527/21-01-1091	2.610
				8527/22-01-1291	2.610
	0.16 ... 0.25 A	230 V AC 50 / 60 Hz	without 1 NC + 1 NO	8527/21-02-1061	2.630
				8527/22-02-1261	2.630
		400 V AC 50 / 60 Hz	without 1 NC + 1 NO	8527/21-02-1071	2.630
				8527/22-02-1271	2.630
		500 V AC 50 / 60 Hz	without 1 NC + 1 NO	8527/21-02-1091	2.630
				8527/22-02-1291	2.630
	0.25 ... 0.4 A	230 V AC 50 / 60 Hz	without 1 NC + 1 NO	8527/21-03-1061	2.630
				8527/22-03-1261	2.630
		400 V AC 50 / 60 Hz	without 1 NC + 1 NO	8527/21-03-1071	2.630
				8527/22-03-1271	2.630
		500 V AC 50 / 60 Hz	without 1 NC + 1 NO	8527/21-03-1091	2.630
				8527/22-03-1291	2.630
	0.4 ... 0.63 A	230 V AC 50 / 60 Hz	without 1 NC + 1 NO	8527/21-04-1061	2.595
				8527/22-04-1261	2.595
		400 V AC 50 / 60 Hz	without 1 NC + 1 NO	8527/21-04-1071	2.595
				8527/22-04-1271	2.595
		500 V AC 50 / 60 Hz	without 1 NC + 1 NO	8527/21-04-1091	2.595
				8527/22-04-1291	2.595
	0.63 ... 1 A	230 V AC 50 / 60 Hz	without 1 NC + 1 NO	8527/21-05-1061	2.620
				8527/22-05-1261	2.620
		400 V AC 50 / 60 Hz	without 1 NC + 1 NO	8527/21-05-1071	2.620
				8527/22-05-1271	2.620
		500 V AC 50 / 60 Hz	without 1 NC + 1 NO	8527/21-05-1091	2.620
				8527/22-05-1291	2.620
	1 ... 1.6 A	230 V AC 50 / 60 Hz	without 1 NC + 1 NO	8527/21-06-1061	2.670
				8527/22-06-1261	2.670
		400 V AC 50 / 60 Hz	without 1 NC + 1 NO	8527/21-06-1071	2.670
				8527/22-06-1271	2.670
		500 V AC 50 / 60 Hz	without 1 NC + 1 NO	8527/21-06-1091	2.670
				8527/22-06-1291	2.670
	1.6 ... 2.5 A	230 V AC 50 / 60 Hz	without 1 NC + 1 NO	8527/21-07-1061	2.650
				8527/22-07-1261	2.650
		400 V AC 50 / 60 Hz	without 1 NC + 1 NO	8527/21-07-1071	2.650
				8527/22-07-1271	2.650
		500 V AC 50 / 60 Hz	without 1 NC + 1 NO	8527/21-07-1091	2.650
				8527/22-07-1291	2.650



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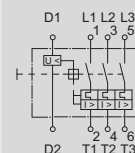
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Selection Table

Version				with undervoltage trip	
	Current adjustment range	Rated operational voltage U_e	Auxiliary contacts	Order number	Weight kg
Motor protection circuit breakers with undervoltage release Series 8527	2.5 ... 4 A	230 V AC 50 / 60 Hz	without	8527 / 21-08-1061	2.650
			1 NC + 1 NO	8527 / 22-08-1261	2.650
		400 V AC 50 / 60 Hz	without	8527 / 21-08-1071	2.650
			1 NC + 1 NO	8527 / 22-08-1271	2.650
		500 V AC 50 / 60 Hz	without	8527 / 21-08-1091	2.650
			1 NC + 1 NO	8527 / 22-08-1291	2.650
	4 ... 6.3 A	230 V AC 50 / 60 Hz	without	8527 / 21-09-1061	2.620
			1 NC + 1 NO	8527 / 22-09-1261	2.620
		400 V AC 50 / 60 Hz	without	8527 / 21-09-1071	2.620
			1 NC + 1 NO	8527 / 22-09-1271	2.620
		500 V AC 50 / 60 Hz	without	8527 / 21-09-1091	2.620
			1 NC + 1 NO	8527 / 22-09-1291	2.620
	6.3 ... 9 A	230 V AC 50 / 60 Hz	without	8527 / 21-10-1061	2.620
			1 NC + 1 NO	8527 / 22-10-1261	2.620
		400 V AC 50 / 60 Hz	without	8527 / 21-10-1071	2.620
			1 NC + 1 NO	8527 / 22-10-1271	2.620
		500 V AC 50 / 60 Hz	without	8527 / 21-10-1091	2.620
			1 NC + 1 NO	8527 / 22-10-1291	2.620
	9 ... 12.5 A	230 V AC 50 / 60 Hz	without	8527 / 21-11-1061	2.520
			1 NC + 1 NO	8527 / 22-11-1261	2.520
		400 V AC 50 / 60 Hz	without	8527 / 21-11-1071	2.520
			1 NC + 1 NO	8527 / 22-11-1271	2.520
		500 V AC 50 / 60 Hz	without	8527 / 21-11-1091	2.520
			1 NC + 1 NO	8527 / 22-11-1291	2.520
	12.5 ... 16 A	230 V AC 50 / 60 Hz	without	8527 / 21-12-1061	2.420
			1 NC + 1 NO	8527 / 22-12-1261	2.420
		400 V AC 50 / 60 Hz	without	8527 / 21-12-1071	2.420
			1 NC + 1 NO	8527 / 22-12-1271	2.420
		500 V AC 50 / 60 Hz	without	8527 / 21-12-1091	2.420
			1 NC + 1 NO	8527 / 22-12-1291	2.420
	16 ... 20 A	230 V AC 50 / 60 Hz	without	8527 / 23-13-1062	4.220
			1 NC + 1 NO	8527 / 24-13-1262	3.520
		400 V AC 50 / 60 Hz	without	8527 / 23-13-1072	4.220
			1 NC + 1 NO	8527 / 24-13-1272	3.520
		500 V AC 50 / 60 Hz	without	8527 / 21-13-1092	4.220
			1 NC + 1 NO	8527 / 24-13-1292	3.520
	20 ... 22.5 A	230 V AC 50 / 60 Hz	without	8527 / 23-14-1062	3.520
			1 NC + 1 NO	8527 / 24-14-1262	3.520
		400 V AC 50 / 60 Hz	without	8527 / 23-14-1072	3.520
			1 NC + 1 NO	8527 / 24-14-1272	3.520
		500 V AC 50 / 60 Hz	without	8527 / 21-14-1092	3.520
			1 NC + 1 NO	8527 / 24-14-1292	3.520





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Explosion Protection

Global (IECEx)

Gas	IECEx BVS 08.0047 Ex d e IIC T*
Dust	IECEx PTB 06.0090 (see type 8146/5) Ex tD A21 IP65 T** (see type 8146/5)

Europe (ATEX)

Gas	DMT 02 ATEX E 026 Ⓔ II 2 G Ex d e IIC T*
Dust	PTB 01 ATEX 1024 (see type 8146/5) Ⓔ II 2 D Ex tD A21 IP65 T** (see type 8146/5)

Type	Adjustment range	T*	T**
8527/21, 8527/22	0.1 ... 0.25 A 0.25 ... 12.5 A 12.5 ... 16 A	T6 T5 T4	80 °C 95 °C 130 °C
8527/23	0.1 ... 12.5 A	T6	80 °C
8527/24	16 ... 22.5 A	T5	95 °C

Certificates and approvals

Certificates	IECEx, ATEX, Canada (CSA), Kazakhstan (GOST-K), Russia (GOST-R), Belarus (GOST-B)
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Technical data

Mechanical data

Degree of protection	IP66 acc. to IEC/EN 60529
Enclosure material	Polyester resin, glass-fibre-reinforced, dark grey, similar to RAL 7024 Surface resistance $\leq 10^9 \Omega$, impact strength $\geq 7 \text{ J}$, flame-resistant, self-extinguishing according to IEC-92-1, UL 94, ASTM D 635-77

Mounting / installation

Mounting orientation	arbitrary					
	Cable entries	Type	Accessories 1)	8161 Screw connec- tions	8290 Stopping plug	
				M25 x 1.5	M32 x 1.5	M25 x 1.5
	Standard	8527/21	without with	2 3	- -	1 -
		8527/22	without with	2 3	- -	1 -
		8527/23; 8527/24	without with	- 1	2 2	1 -
		8527/25; 8527/26				
		0.1 ... 12.5 A	without with	2 3	- -	1 -
		12.5 ... 22.5 A	without with	- 1	2 2	1 -
		M25 x 1.5 for cables Ø 12 ... 17 mm M32 x 1.5 for cables Ø 10 ... 18 mm				
	1) auxiliary contacts, undervoltage release, shunt release					
Wire Leads	8527/21	directly to fitted components				
	8527/22	Main contacts	1.5 ... 6 mm ² finely stranded 1.5 ... 10 mm ² solid			
		Auxiliary contact	0.75 ... 1.5 mm ² finely stranded 0.75 ... 2.5 mm ² solid			
	8527/23 8527/24 8527/25 8527/26	on terminals	0.5 ... 6 mm ² finely stranded 0.5 ... 10 mm ² solid			
	Please note:					
	Compare cable diameter with cable diameter range of cable entry					

Switch insert

Electrical data

Rated operational voltage	max. 690 V AC, 50 / 60 Hz
Rated operational current	0.1 ... 22.5 A

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Technical data

Contact Switching Capacity	according to the selected adjustment range (AC)											
	230 V	400 V	500 V	690 V								
	7.0 kW	12.4 kW	16 kW	22 kW								
Service life	10 ⁵ operations											
electrical	10 ⁵ operations											
mechanical	3-pole											
Main contacts	Adjustment range from ... to											
Short circuit protection	Highest rated current of the short circuit fuse if I _{CC} > I _{CS}											
	at 230 V AC		at 400 V AC		at 440 V AC		at 500 V AC		at 690 V AC			
	I _{CS}	gG, aM	I _{CS}	gG, aM	I _{CS}	gG, aM	I _{CS}	gG, aM	I _{CS}	gG, aM		
	0.1 A ... 0.16 A up to 1.0 A ... 1.6 A		Short-circuit proof, no fuse needed up to I _{CC} = 100 kA									
	1.6 A ... 2.5 A								40 kA	25 A		
	2.5 A ... 4.0 A								60 kA	35 A / 40 A	10 kA	40 kA
	4.0 A ... 6.3 A						70 kA	50 A	40 kA	50 A	7 kA	40 A
	6.3 A ... 9.0 A						50 kA	80 A	30 kA	80 A	5 kA	50 A
	9.0 A ... 12.5 A		75 kA	80 A	45 kA	80 A	27 kA	80 A	4.5 kA	50 A		
	12.5 A ... 16.0 A		60 kA	100 A	40 kA	100 A	22 kA	100 A	4 kA	50 A		
	16.0 A ... 20.0 A		55 kA	100 A	35 kA	100 A	22 kA	100 A	3.5 kA	50 A		
	20.0 A ... 22.5 A		50 kA	125 A	30 kA	125 A	20 kA	125 A	3 kA	50 A		
	I _{CS} = Rated short-circuit breaking capacity I _{CC} = Projected short circuit current at the installation location											
Thermal overcurrent release	according to the adjustment range of the switch, selectable on the switch											
Electromagnetic quick release	see tripping characteristic curve											
	Adjustment range		Operate value set at factory									
	0.16	... 0.63 A	7.5	... 12.0 I _n								
	1.0	... 2.5 A	9.0	... 14.0 I _n								
	2.5	... 4.0 A	10.0	... 15.0 I _n								
	4.0	... 6.3 A	10.0	... 15.0 I _n								
	9.0	... 22.5 A	12.5	... 17.5 I _n								
Ambient conditions												
Ambient temperature range	-20 ... +40 °C											
Mechanical data												
Switching handle	Labelling: 0 - I; can be locked with 3 padlocks in 0-position Colour: Standard: Handle black, protective collar black Special version: Handle red, protective collar yellow (for EM-STOP function)											
Auxiliary contacts												
Device version	optional: without; 1 NC + 1 NO; 2 NCs + 2 NOs											
Electrical data												
Rated operational voltage U _e	max. 500 V AC											
Rated operational current	AC-15: 24 V / 2.5 A; 230 V / 2 A; 400 V / 1 A DC-13: 24 V / 2.5 A; 60 V / 2.5 A; 110 V / 0.6 A; 220 V / 0.25 A											



Motor Protection Circuit Breaker Series 8527/2

Technical data

Undervoltage release

Electrical data

Function	in case of voltage interruption, circuit-breaker triggers; this prevents unwanted restarting, e.g. of a motor
Pick-up voltage	$\geq 0.85 \times U_c$
Drop-out	$0.7 \dots 0.35 \times U_c$
Power consumption	
Inrush	0.9 VA
Holding	0.9 VA

Shunt release

Electrical data

Function	for remote tripping of circuit-breakers by applying actuating voltage
Pick-up voltage	$\geq 0.85 \times U_c$
Relative duty cycle	Switches off automatically via integrated contact switch
Power consumption	
Inrush	24 ... 60 V: 14.4 ... 90 VA; 110 ... 240 V: 13 ... 61 VA; 220 ... 415 V: 17.6 ... 62.3 VA
Holding	Switches off automatically via integrated contact switch

Ammeter

Device version

Type 8405; dimensions 64 mm x 64 mm

Electrical data

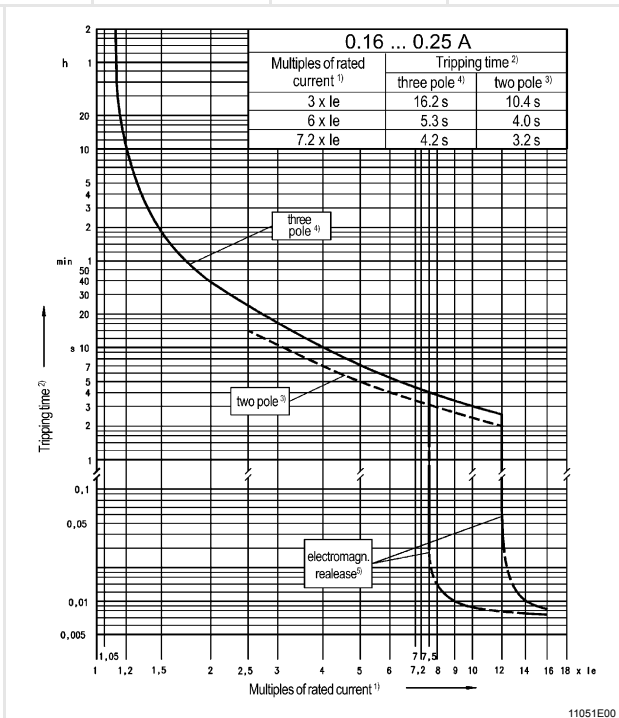
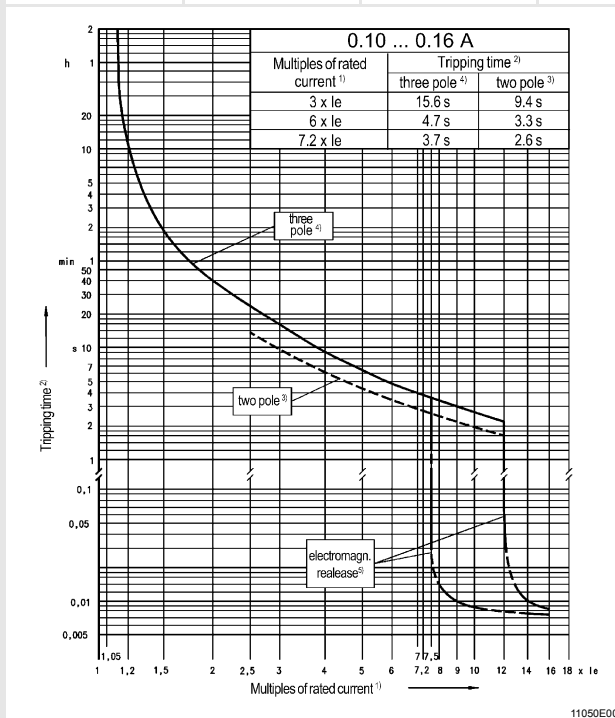
Movement	Moving iron: class 2.5; direct measuring; overload scale 1:2
Measuring range	according to the adjustment range of the switch
Overload capacity	$2 \times I_e$ 25 s, $50 \times I_e$ 1 s

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Motor Protection Circuit Breaker Series 8527/2

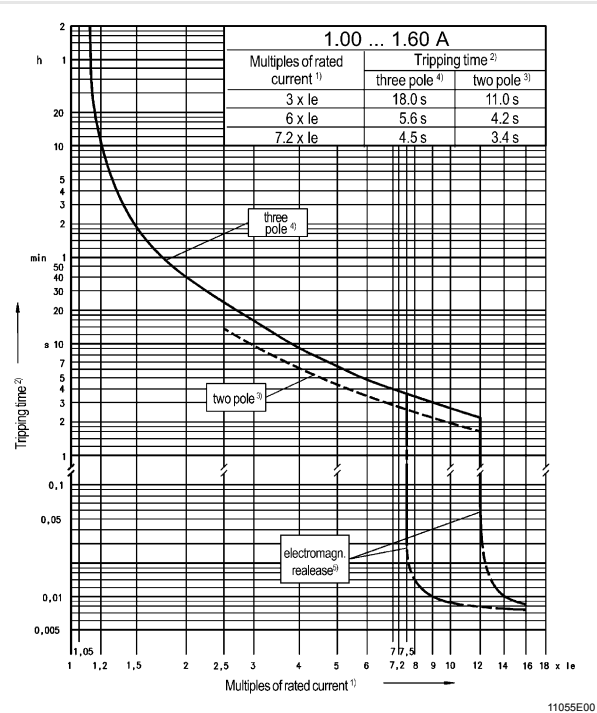
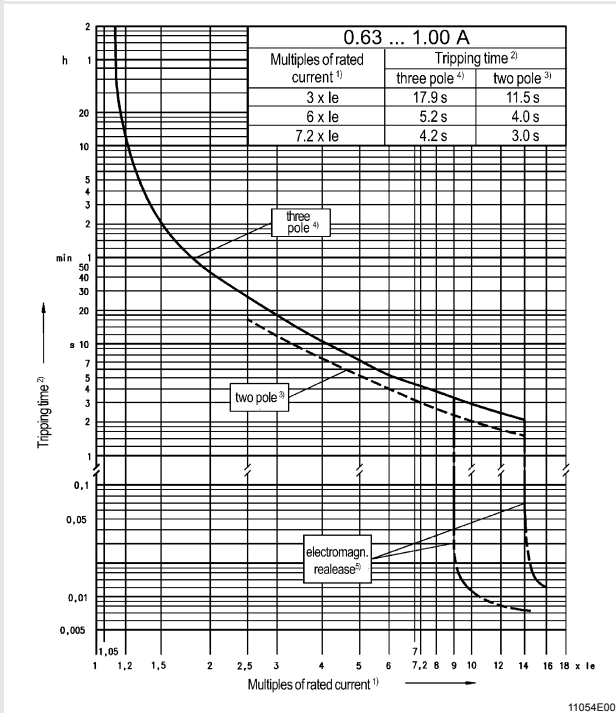
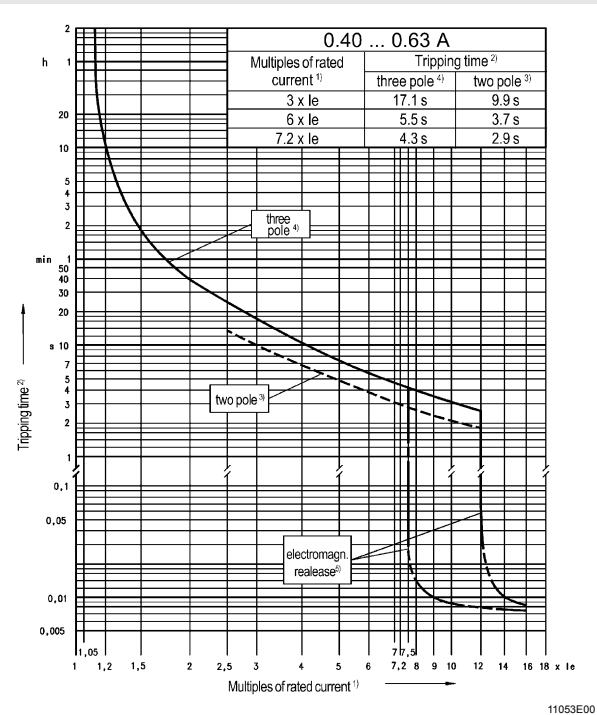
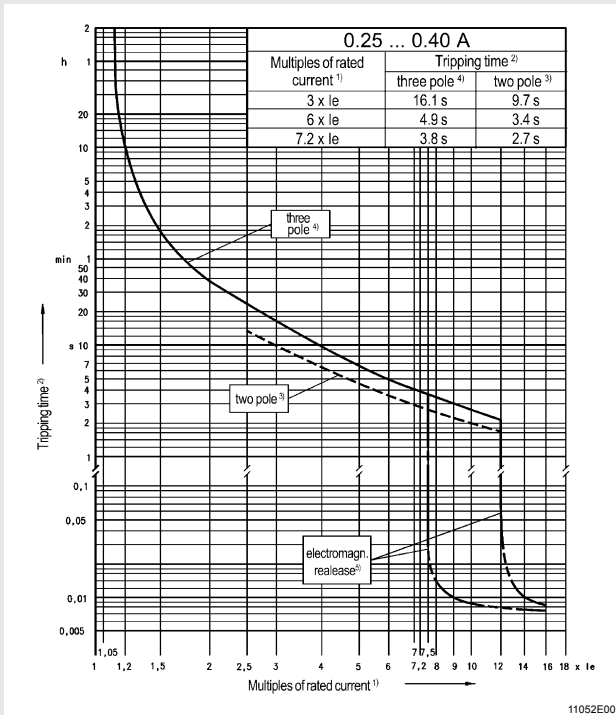
Adjustment range of the motor protection switch	Tripping time of the motor protection switch with					
	3	4	5	6	7.2	8
	times rated current, 3-pole from cold state.					
A ... A	s	s	s	s	s	s
0.1 ... 0.16	15.0	9.0	6.5	4.8	3.7	3.2
0.16 ... 0.25	16.0	10.0	6.8	5.2	4.0	3.6
0.25 ... 0.4	16.0	9.7	6.5	5.0	3.8	3.3
0.4 ... 0.63	17.0	10.2	7.3	5.7	4.4	3.9
0.63 ... 1.0	17.5	10.2	7.2	5.5	4.2	3.8
1.0 ... 1.6	17.0	10.0	7.1	5.6	4.4	4.0
1.6 ... 2.5	18.0	10.3	7.5	5.9	4.7	4.2
2.5 ... 4.0	18.4	11.5	8.1	6.4	5.0	4.6
4.0 ... 6.3	19.0	12.0	8.5	6.7	5.3	4.9
6.3 ... 9.0	18.2	11.5	7.9	6.0	4.5	3.8
9.0 ... 12.5	19.0	11.5	8.0	6.0	4.6	4.0
12.5 ... 16.0	19.5	11.5	7.5	5.4	4.0	3.3
16.0 ... 20.0	20.0	11.5	7.8	5.7	4.2	3.5
20.0 ... 22.5	20.0	10.4	7.0	5.0	3.7	3.2



- 1) Multiples of the rated operational current
2) Tripping time
3) 2-pole
4) 3-pole
5) Electromagnetic release



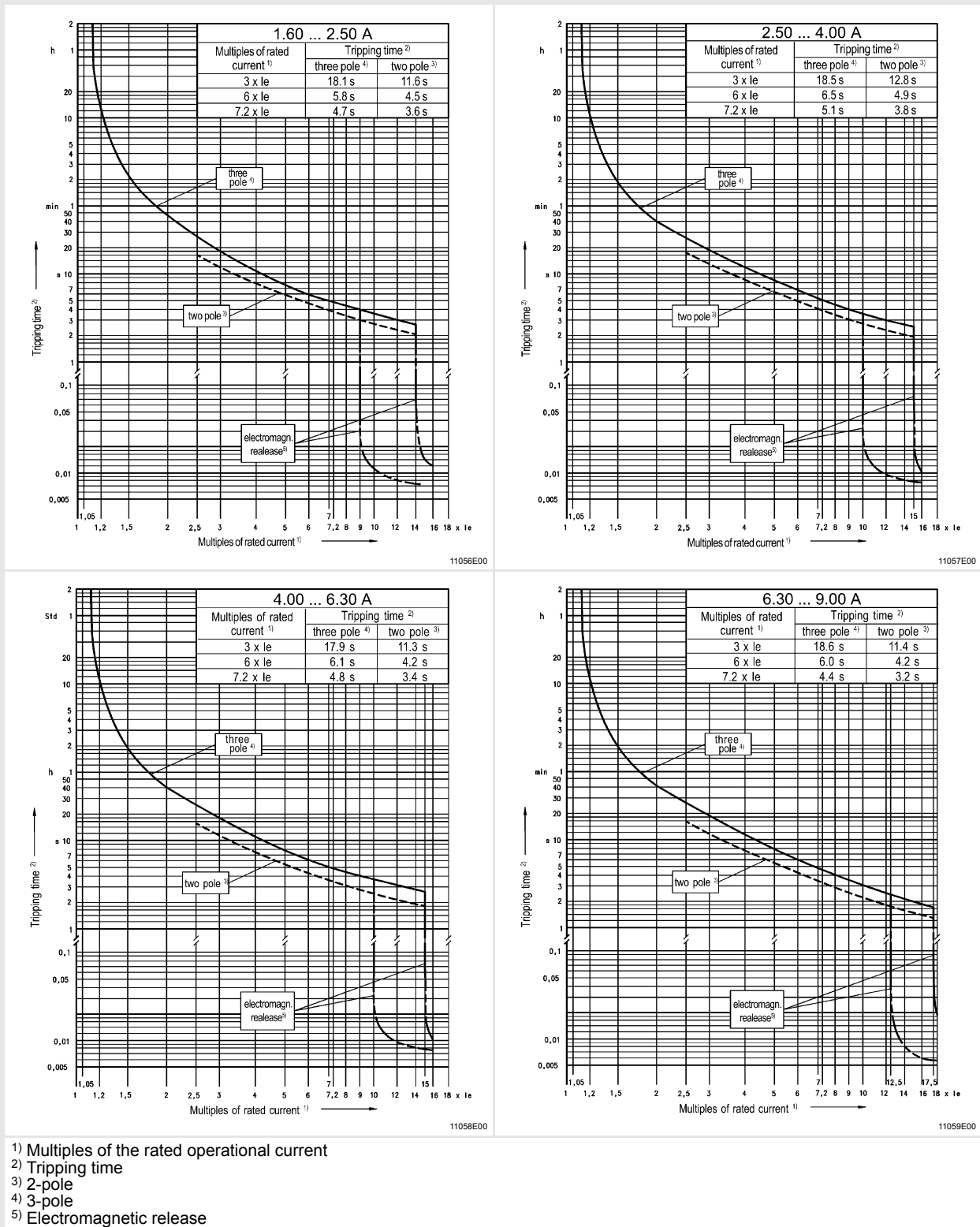
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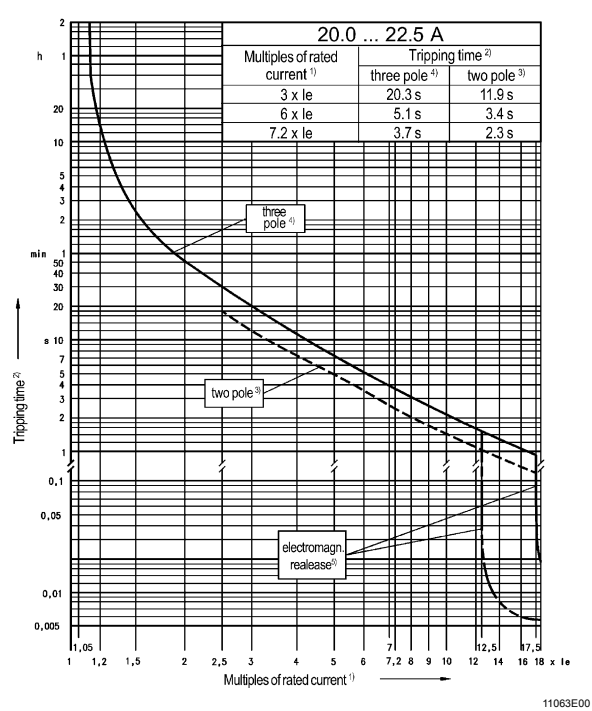
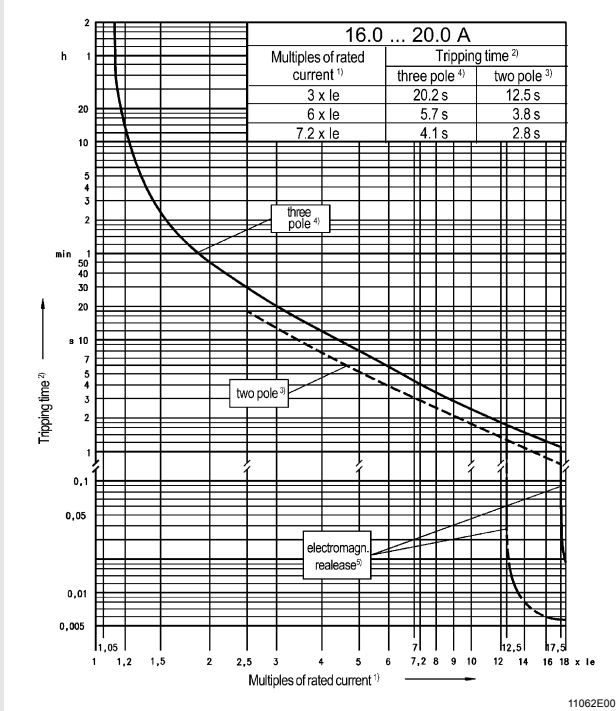
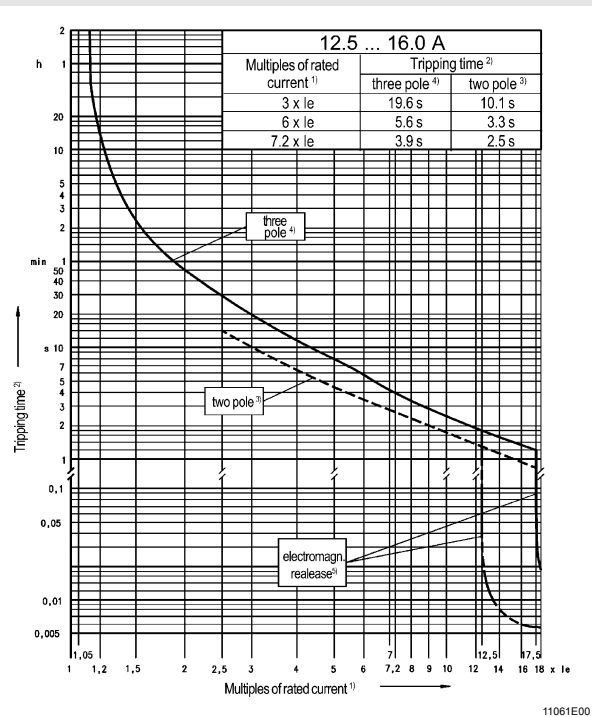
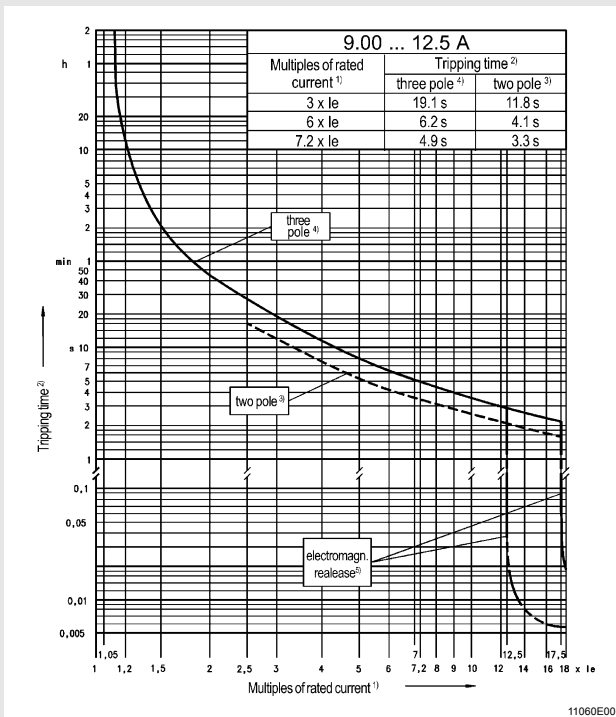
- 1) Multiples of the rated operational current
- 2) Tripping time
- 3) 2-pole
- 4) 3-pole
- 5) Electromagnetic release

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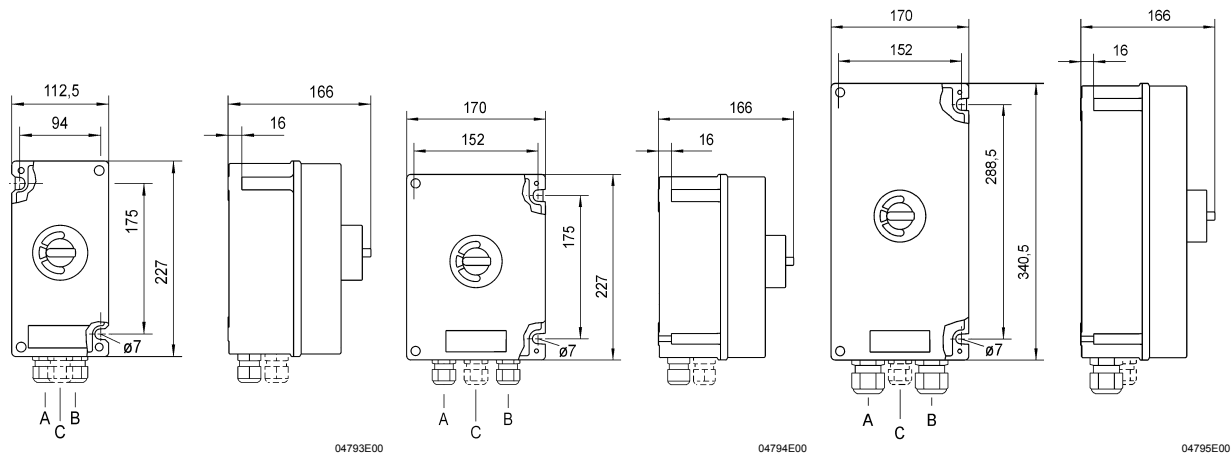
- 1) Multiples of the rated operational current
- 2) Tripping time
- 3) 2-pole
- 4) 3-pole
- 5) Electromagnetic release

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Series 8527/2

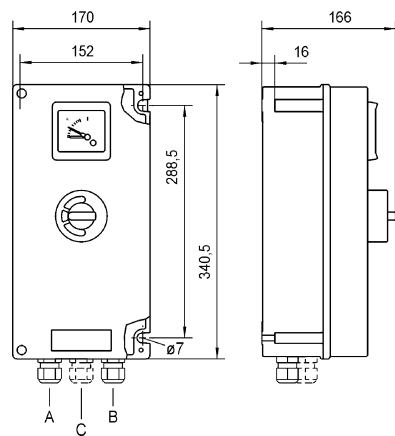
Dimensional Drawings (All Dimensions in mm) - Subject to Alterations



8527/21

8527/22

8527/23; 8527/24



8527/25; 8527/26

Cable entries

Type	Accessories	Cable glands 8161		Stopping plugs 8290 M25 x 1.5
		M25 x 1.5	M32 x 1.5	
8527/21	without	A + B	--	C
	with	A, B, C	--	--
8527/22	without	A + B	--	C
	with	A, B, C	--	--
8527/23; 8527/24	without	--	A + B	C
	with	C	A + B	--
8527/25; 8527/26				
	0.1 ... 12.5 A			
	without	A + B	--	C
	with	A, B, C	--	--
12.5 ... 22.5 A	without	--	A + B	C
	with	C	A + B	--

We reserve the right to make alterations to the technical data, dimensions, weights, designs and products available without notice. The illustrations cannot be considered binding.