LZM1-4 circuit-breaker series up to 1600 A

Circuit breaker LZM

EATON
Powering Business Worldwide

Circuit-breakers LZM

Circuit-breakers LZM1, 2, 3, 4 up to 1600 A

Reliably and safely controlling, switching and managing power, in industry, in buildings and in machine construction. Enabled by innovative protection concepts.

Circuit-breaker series LZM1 to LZM4

- just 4 compact frame sizes
- available as 3 and 4-pole device
- now also up to 1600 A
- flexible mounting using modular function groups
- full rated current at 50 °C ambient temperature

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Standard/trip-indicating auxiliary contact from the Titan range

- reduced number of variants and stockholding requirement
- simple front installation at the same position
- simple clip-on feature saves mounting costs
- attractively priced identical parts from the control circuit device range

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Door coupling rotary handles

- identical drilling template for all variants
- innovative automatic centring
- axis support for long-term reliable operation
- side-wall operation ensuring space-saving main switch installation

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Remote operators

- common functional concept of all variants
- low closing delays 60 ms to 100 ms
- locking and sealing features provide security

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Circuit-breakers LZM

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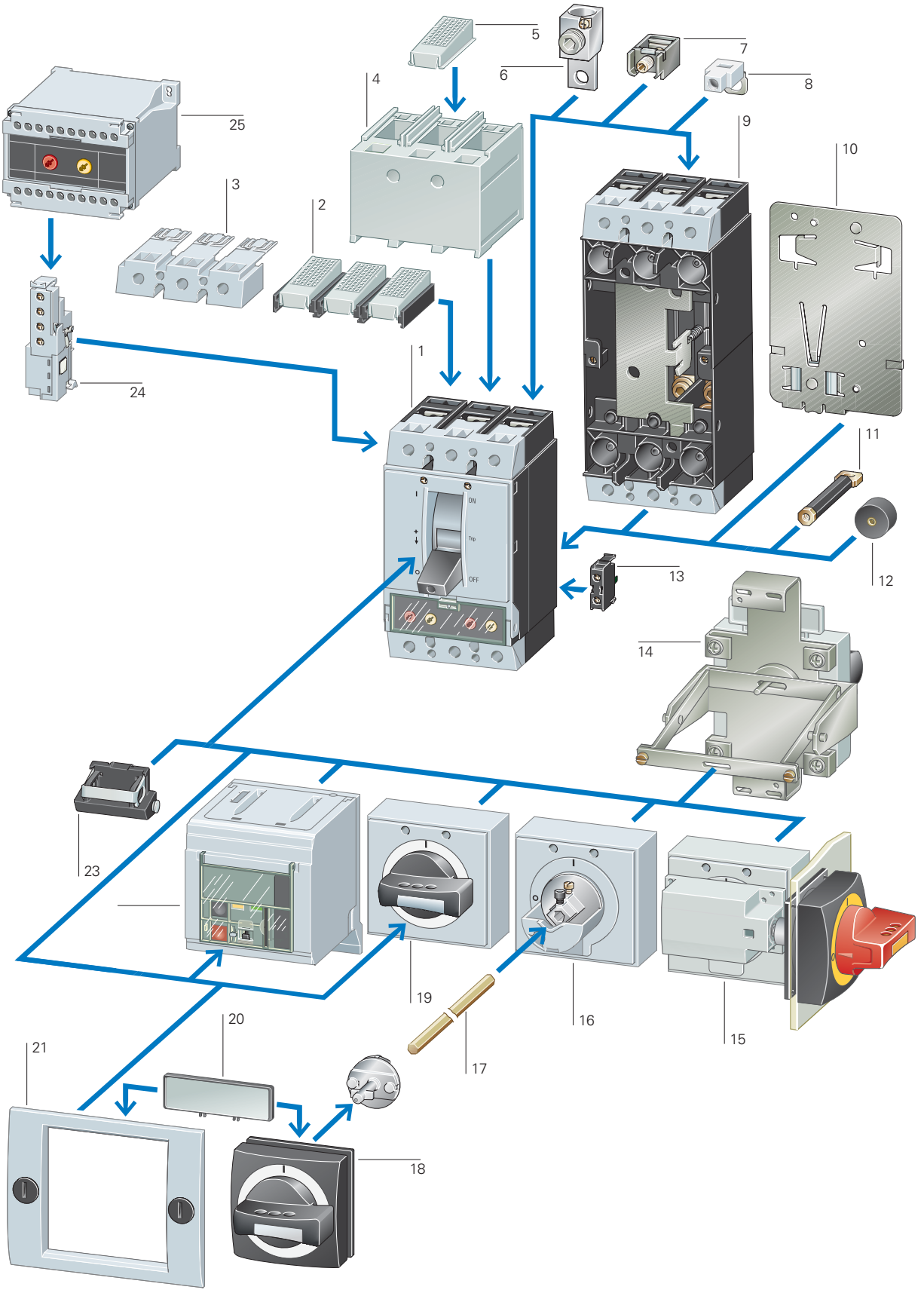
Circuit-breakers LZM



Circuit-breakers LZM

Basic units

Circuit-breaker 1

Rated uninterrupted current up to 1600 A
Switching capacity 25, 36, 50, 70 kA at 415 V
Adjustable releases for overload and short-circuit
Adjustable time selectivity
Earth-fault protection
Protection of systems, cables, motors, generators
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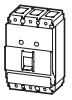
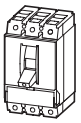
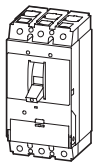
Circuit-breakers LZM

Technical overview

Circuit-breaker, 3/4 pole LZM1, LZM2, LZM3, LZM4

Circuit-breaker
With main switch characteristics to IEC/EN 60204 and isolating characteristics to IEC/EN 60947, CCC

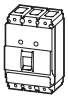
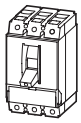
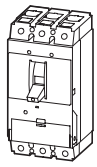
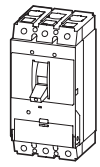
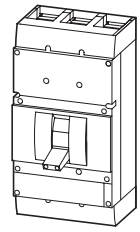




Rated uninterrupted current I_u = Rated current I_n
Adjustable overload release I_r
Adjustable short-circuit release I_i
Delayed short-circuit release I_{sd}

Thermomagnetic releases
System and cable protection

			I_u		I_u			I_r	I_i	
			A		A			A	A	
Ambient temperature at 100% I_u			20		20			0.8 – 1 × I_n	350	
min./max. -25 / +50 °C			25		25			0.8 – 1 × I_n	350	
			32		32			0.8 – 1 × I_n	350	
			40		40			0.8 – 1 × I_n	8 – 10 × I_n	
			50		50			0.8 – 1 × I_n	6 – 10 × I_n	
			63		63			0.8 – 1 × I_n	6 – 10 × I_n	
			80		80			0.8 – 1 × I_n	6 – 10 × I_n	
			100		100			0.8 – 1 × I_n	6 – 10 × I_n	
			125		125		250	0.8 – 1 × I_n	6 – 10 × I_n	
			160		160		320	0.8 – 1 × I_n	LZM1: 8 × I_n, 6 – 10 × I_n	
			160		200		400	0.8 – 1 × I_n	LZM1: 8 × I_n, 6 – 10 × I_n	
			160		250		500	0.8 – 1 × I_n	LZM1: 8 × I_n, 6 – 10 × I_n	
			160		300			0.8 – 1 × I_n	LZM1: 8 × I_n, 6 – 10 × I_n	
Basic switching capacity			**LZMB1-A...**		**LZMB2-A...**					
400/415 V	kA/cos φ		25	0.25	25	0.25				
440 V	kA/cos φ		25	0.25	25	0.25				
Comfort switching capacity			**LZMC1-A...**		**LZMC2-A...**		**LZMC3-A...**			
400/415 V	kA/cos φ		36	0.25	36	0.25	36	0.25		
440 V	kA/cos φ		30	0.25	30	0.25	30	0.25		
525 V	kA/cos φ		12	0.5	12	0.5	12	0.5		
690 V	kA/cos φ		8	0.5	8	0.5	8	0.5		
Normal switching capacity			**LZMN1-A...**		**LZMN2-A...**		**LZMN3-A...**			
400/415 V	kA/cos φ		50	0.25	50	0.25	50	0.25		
440 V	kA/cos φ		35	0.25	35	0.25	35	0.25		
525 V	kA/cos φ		20	0.30	25	0.25	25	0.25		
690 V	kA/cos φ		10	0.50	20	0.30	20	0.30		
Strong switching capacity			**LZMS1-A-...**		**LZMS2-A-...**		**LZMS3-A-...**			
400/415 V	kA/cos φ		70	0.20	70	0.20	70	0.20		
440 V	kA/cos φ		35	0.25	65	0.20	65	0.20		
525 V	kA/cos φ		20	0.30	36	0.25	36	0.25		
690 V	kA/cos φ		10	0.50	20	0.30	25	0.30		

Notes The stated switching capacity values are rated ultimate short-circuit breaking capacities (I_{cu})

Magnetic short-circuit release
Motor protection

Electronic releases
Systems, cable, selectivity and generator protection

I_u	I_u	I_u	I_i	I_u	I_u	I_r	I_{sd}	I_i
A	A	A	A	A	A	A	A	A
						0.5 – 1 × I_n	2 – 10 × I_r	2 – 12 × I_n
				400	800	0.5 – 1 × I_n	2 – 10 × I_r	2 – 12 × I_n
				630	1000	0.5 – 1 × I_n	2 – 10 × I_r	2 – 12 × I_n
40			8 – 14 × I_n	630	1250	0.5 – 1 × I_n	2 – 10 × I_r	2 – 12 × I_n
50			8 – 14 × I_n	630	1600	0.5 – 1 × I_n	2 – 10 × I_r	2 – 12 × I_n
63			8 – 14 × I_n	630			2 – 6 × I_r	2 – 8 × I_r
80			8 – 14 × I_n	630				
100								
100	125	250						
100	160	320						
100	200	400						
100		500						
100								

LZMB1-S...		**LZMB2-S...**	
25	0.25	25	0.25
25	0.25	25	0.25

LZMC1-S...		**LZMC2-S...**		**LZMC3-S...**	
36	0.25	36	0.25	36	0.25
30	0.25	30	0.25	30	0.25
12	0.50	12	0.25	12	0.25
8	0.50	8	0.50	8	0.50

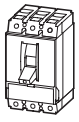
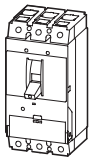
LZMN1-S...		**LZMN2-S...**		**LZMN3-S...**		**LZMN3-...E...**		**LZMN4-...E...**	
50	0.25	50	0.25	50	0.25	50	0.25	50	0.25
35	0.25	35	0.25	35	0.25	35	0.25	35	0.25
20	0.30	25	0.25	25	0.25	25	0.25	25	0.25
10	0.50	20	0.30	20	0.30	20	0.30	20	0.30

LZMS1-S-...		**LZMS2-S...**		**LZMS3-S...**		**LZMS3-...E...**		**LZMS4-...E...**	
70	0.20	70	0.20	70	0.20	70	0.20	70	0.20
35	0.25	65	0.20	65	0.20	65	0.20	65	0.20
20	0.30	36	0.25	36	0.25	36	0.25	36	0.25
10	0.50	20	0.30	25	0.30	25	0.30	35	0.25

Circuit-breakers LZM

Ordering

Circuit-breaker, thermo-magnetic release, 3 pole LZM...1, LZM...2, LZM...3

Rated current = rated uninterrupted current $I_n = I_u$ A	Setting range Overload releases I_r A	Short-circuit releases I_i A	Basic switching capacity **25 kA** at 415 V 50/60 Hz **Part no.** Article no.	**Price** see price list	Comfort switching capacity **36 kA** at 415 V 50/60 Hz **Part no.** Article no.	**Price** see price list
Protection of systems and cables						
3 pole						
Terminals standard, terminal screws as accessories 						
20	15…20	350	**LZMB1-A20** 109232		**LZMC1-A20** 109432	
25	20…25	350	**LZMB1-A25** 109233		**LZMC1-A25** 109433	
32	25…32	350	**LZMB1-A32** 109234		**LZMC1-A32** 109434	
40	32…40	320…400	**LZMB1-A40** 109235		**LZMC1-A40** 109435	
50	40…50	300…500	**LZMB1-A50** 109236		**LZMC1-A50** 109436	
63	50…63	380…630	**LZMB1-A63** 109237		**LZMC1-A63** 109437	
80	63…80	480…800	**LZMB1-A80** 109238		**LZMC1-A80** 109438	
100	80…100	600…1000	**LZMB1-A100** 109239		**LZMC1-A100** 109439	
125	100…125	750…1250	**LZMB1-A125** 109430		**LZMC1-A125** 109440	
160	125…160	1280	**LZMB1-A160** 109431		**LZMC1-A160** 109441	
Terminal screws standard, terminals as accessories 						
20	15…20	350				
25	20…25	350				
32	25…32	350				
40	32…40	320…400				
50	40…50	300…500				
63	50…63	380…630				
80	63…80	480…800				
100	80…100	600…1000				
125	100…125	750…1250				
160	125…160	960…1600	**LZMB2-A160** 109522		**LZMC2-A160** 109526	
200	160…200	1200…2000	**LZMB2-A200** 109523		**LZMC2-A200** 109527	
250	200…250	1500…2500	**LZMB2-A250** 109524		**LZMC2-A250** 109528	
300	240…300	1500…2500	**LZMB2-A300** 109525		**LZMC2-A300** 109529	
Terminal screws standard, terminals as accessories 						
250	200…250	1500…2500			**LZMC3-A250** 109597	
320	250…320	1920…3200			**LZMC3-A320** 109598	
400	320…400	2400…4000			**LZMC3-A400** 109599	
500	400…500	3000…5000			**LZMC3-A500** 109600	

Notes Notes for terminals → 21

Normal switching capacity **50 kA** at 415 V 50/60 Hz		Strong switching capacity **70 kA** at 415 V 50/60 Hz			
Part no. Article no.	**Price** see price list	**Part no.** Article no.	**Price** see price list	Std. pack	**Notes**
LZMN1-A20 109442		**LZMS1-A20** 109452		1 off	IEC/EN 60947-2 Adjustable overload releases I_r • 0.8 – 1 × I_n (ex-works 0.8 × I_n) Adjustable short-circuit releases I_i • 6 – 10 × I_n (ex-works 6 × I_n) – LZM...-A40: 8 – 10 × I_n (ex-works 8 × I_n) Fixed short-circuit release I_i • 350 A at I_n = 20 – 32 A • 1280 A at I_n = 160 A (LZM1)
LZMN1-A25 109443		**LZMS1-A25** 109453		1 off	
LZMN1-A32 109444		**LZMS1-A32** 109454		1 off	
LZMN1-A40 109445		**LZMS1-A40** 109455		1 off	
LZMN1-A50 109446		**LZMS1-A50** 109456		1 off	
LZMN1-A63 109447		**LZMS1-A63** 109457		1 off	
LZMN1-A80 109448		**LZMS1-A80** 109458		1 off	
LZMN1-A100 109449		**LZMS1-A100** 109459		1 off	
LZMN1-A125 109450		**LZMS1-A125** 109460		1 off	
LZMN1-A160 109451		**LZMS1-A160** 109461		1 off	
		LZMS2-A20 109534		1 off	
		LZMS2-A25 109535		1 off	
		LZMS2-A32 109536		1 off	
		LZMS2-A40 109537		1 off	
		LZMS2-A50 109538		1 off	
		LZMS2-A63 109539		1 off	
		LZMS2-A80 109540		1 off	
		LZMS2-A100 109541		1 off	
		LZMS2-A125 109542		1 off	
LZMN2-A160 109530		**LZMS2-A160** 109543		1 off	
LZMN2-A200 109531		**LZMS2-A200** 109544		1 off	
LZMN2-A250 109532		**LZMS2-A250** 109545		1 off	
LZMN2-A300 109533		**LZMS2-A300** 109546		1 off	
LZMN3-A250 109601		**LZMS3-A250** 109605		1 off	
LZMN3-A320 109602		**LZMS3-A320** 109606		1 off	
LZMN3-A400 109603		**LZMS3-A400** 109607		1 off	
LZMN3-A500 109604		**LZMS3-A500** 109608		1 off	

Circuit-breakers LZM

Ordering

Circuit-breaker, magnetic short-circuit releases, 3 pole LZM...1, LZM...2, LZM...3

Rated current = rated uninterrupted current	**Setting range** Short-circuit releases	Motor rating AC-3 at 400 V 50/60 Hz	Rated operational current AC-3 at 400 V 50/60 Hz	Basic switching capacity **25 kA** at 415 V 50/60 Hz **Part no.** Article no.	**Price** see price list	Comfort switching capacity **36 kA** at 415 V 50/60 Hz **Part no.** Article no.	**Price** see price list
$I_n = I_u$	I_i	P	I_e				
A	A	kW	A				

Short-circuit protection

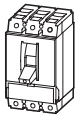
Motor protection in conjunction with overload relay
- With short-circuit release
- Without overload release

3 pole

Terminals standard, terminal screws as accessories

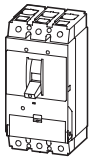
40	320…560	18.5	36	**LZMB1-S40** 109462	**LZMC1-S40** 109467
50	400…700	22	41	**LZMB1-S50** 109463	**LZMC1-S50** 109468
63	504…882	30	55	**LZMB1-S63** 109464	**LZMC1-S63** 109469
80	640…1120	37	68	**LZMB1-S80** 109465	**LZMC1-S80** 109470
100	800…1250	55	99	**LZMB1-S100** 109466	**LZMC1-S100** 109471

Terminal screws standard, terminals as accessories



40	320…560	18.5	36		
50	400…700	22	41		
63	504…882	30	55		
80	640…1120	37	68		
100	800…1400	55	99		
125	1000…1750	55	99	**LZMB2-S125** 109547	**LZMC2-S125** 109550
160	1280…2240	75	134	**LZMB2-S160** 109548	**LZMC2-S160** 109551
200	1600…2500	110	196	**LZMB2-S200** 109549	**LZMC2-S200** 109552

Terminal screws standard, terminals as accessories



250	2000…3500		250		**LZMC3-S250** 109609
320	2560…4480		320		**LZMC3-S320** 109610
400	2800…5000		400		**LZMC3-S400** 109611
500	3000…5000		450		**LZMC3-S500** 109612

Notes Notes for terminals → 21

Normal switching capacity **50 kA** at 415 V 50/60 Hz		Strong switching capacity **70 kA** at 415 V 50/60 Hz			
Part no. Article no.	**Price**	**Part no.** Article no.	**Price**	Std. pack	**Notes**
	see price list		see price list		
LZMN1-S40 109472		**LZMS1-S40** 109477		1 off	
LZMN1-S50 109473		**LZMS1-S50** 109478		1 off	
LZMN1-S63 109474		**LZMS1-S63** 109479		1 off	
LZMN1-S80 109475		**LZMS1-S80** 109480		1 off	
LZMN1-S100 109476		**LZMS1-S100** 109481		1 off	
		LZMS2-S40 109556		1 off	
		LZMS2-S50 109557		1 off	
		LZMS2-S63 109558		1 off	
		LZMS2-S80 109559		1 off	
		LZMS2-S100 109560		1 off	
LZMN2-S125 109553		**LZMS2-S125** 109561		1 off	
LZMN2-S160 109554		**LZMS2-S160** 109562		1 off	
LZMN2-S200 109555		**LZMS2-S200** 109563		1 off	
LZMN3-S250 109613		**LZMS3-S250** 109617		1 off	
LZMN3-S320 109614		**LZMS3-S320** 109618		1 off	
LZMN3-S400 109615		**LZMS3-S400** 109619		1 off	
LZMN3-S500 109616		**LZMS3-S500** 109620		1 off	

IEC/EN 60947-4-1 and IEC/EN 60947-2
The circuit-breaker fulfills all requirements for AC-3 switching category.
Adjustable short-circuit releases I_i
- 8 – 14 × I_n (ex-works 12 × I_n)
  – LZM...1-S100, LZM...2-S200: 8 – 12.5 × I_n (ex-works 12 × I_n)

Without overload release I_r
– LZM...3-S400: 7 – 12.5× I_n
– LZM...3-S500: 6 – 10× I_n

Selection

of circuit-breakers without overload release when combining with ZEV electronic motor-protective relay:

The tripping response of the ZEV motor-protective relay is matched by setting of the tripping class (CLASS), to the starting behaviour of the motor to be protected.

	I_n in A	**Maximum permissible tripping class CLASS**
LZM...1-S...	40	30
	50	30
	63	30
	80	20
	100	15
LZM...2-S...	40	30
	50	30
	63	30
	80	30
	100	30
	125	30
	160	20
	200	10
LZM...3-S...	250	30
	320	30
	400	30
	500	20

Tripping class	**Tripping time T_p with load on all poles of 7.2 times current setting value**
10 A	2 s < T_p ≦ 10 s
10	4 s < T_p ≦ 10 s
20	6 s < T_p ≦ 20 s
30	9 s < T_p ≦ 30 s

Motor-starter combination of classification types 1 and 2 can be found in the "Fuseless motor-starter combinations" section of the Main Catalogue.

Circuit-breakers LZM

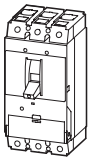
Ordering

Electronic releases, 3 pole LZM...3, LZM...4

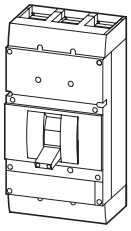
Normal switching capacity **50 kA** at 415 V 50/60 Hz

Rated current = rated uninterrupted current	**Setting range**			**Part no.** Article no.	**Price** see price list
	Overload releases	Short-circuit releases			
		Non-delayed	Delayed short-circuit release		
$I_n = I_u$	I_r	I_i	I_{sd}		
A	A	A	A		
					
Protection of systems and cables					
3 pole					
400	200…400	800…4400		**LZMN3-AE400** 109639	
630	315…630	1260…5040		**LZMN3-AE630** 109640	
800	400…800	1600…9600		**LZMN4-AE800** 110942	
1000	500…1000	2000…12000		**LZMN4-AE1000** 110943	
1250	630…1250	2500…15000		**LZMN4-AE1250** 110944	
1600	800…1600	3200…19200		**LZMN4-AE1600** 110945	
Systems and cable protection, selectivity and generator protection					
3 pole					
400	200…400	800…4400	400…4000	**LZMN3-VE400** 109651	
630	315…630	1260…5040	472…4410	**LZMN3-VE630** 109652	
800	400…800	1600…9600	800…8000	**LZMN4-VE800** 110960	
1000	500…1000	2000…12000	1000…10000	**LZMN4-VE1000** 110961	
1250	630…1250	2500…15000	1250…12500	**LZMN4-VE1250** 110962	
1600	800…1600	3200…19200	1600…16000	**LZMN4-VE1600** 110963	

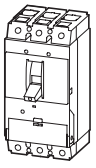
Terminal screws standard, terminals as accessories



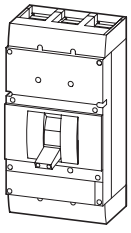
Terminal screws standard, terminals as accessories



Terminal screws standard, terminals as accessories



Terminal screws standard, terminals as accessories

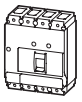


Notes Notes for terminals → 29

Strong switching capacity **70 kA**
at 415 V 50/60 Hz

Part no. Article no.	**Price** see price list	Std. pack	**Notes**
LZMS3-AE400 109641		1 off	IEC/EN 60947-2
LZMS3-AE630 109642		1 off	Adjustable overload releases I_r • 0.5 – 1 × I_n (ex-works 0.8 × I_n) R.m.s. value measurement and "thermal memory" Adjustable short-circuit releases I_i • LZM...3-AE400: 2 – 11 × I_n (ex-works 6 × I_n) • LZM...3-AE630: 2 – 8 × I_n (ex-works 6 × I_n) • LZM...4-AE...: 2 – 12 × I_n (ex-works 6 × I_n)
LZMS4-AE800 110946		1 off	
LZMS4-AE1000 110947		1 off	
LZMS4-AE1250 110948		1 off	
LZMS4-AE1600 110949		1 off	
LZMS3-VE400 109653		1 off	IEC/EN 60947-2
LZMS3-VE630 109654		1 off	Adjustable overload releases I_r • 0.5 – 1 × I_n (ex-works 0.8 × I_n) R.m.s. value measurement and "thermal memory" Adjustable time delay setting to overcome current peaks t_r • 2 … 20 s with 6 × I_r as well as infinity (without overload release) (ex-factory 10 s)
LZMS4-VE800 110964		1 off	Adjustable delayed short-circuit releases I_{sd} • 2 – 10 × I_r (ex-works 6 × I_r) – LZM…3-VE630: 1.5 – 7 × I_r (ex-works 6 × I_r)
LZMS4-VE1000 110965		1 off	
LZMS4-VE1250 110966		1 off	Adjustable delay time t_{sd} • Steps: 0, 20, 60, 100, 200, 300, 500, 750, 1000 ms (ex-works 0 ms)
LZMS4-VE1600 110967		1 off	Adjustable non-delayed short-circuit releases I_i • LZM…3-VE400: 2 – 11 × I_n (ex-works 6 × I_n) • LZM…3-VE630: 2 – 8 × I_n (ex-works 6 × I_n) • LZM…4-VE…: 2 – 12 × I_n (ex-works 12 × I_n) i^2t constant function • LZM3, LZM4 switched (ex-works OFF)

Terminals standard, terminal screws as accessories



Thermomagnetic release, 4 pole LZM...1

Rated current = rated uninterrupted current	Setting range			Basic switching capacity **25 kA** at 415 V 50/60 Hz		Comfort switching capacity **36 kA** at 415 V 50/60 Hz	
	Overload releases		Short-circuit releases	**Part no.** Article no.	**Price** see price list	**Part no.** Article no.	**Price** see price list
	Main pole	Neutral conductor					
$I_n = I_u$	I_r	I_r	I_i				
A	A	A	A				
							
Protection of systems and cables							
4 pole							
20	15…20	15…20	350	**LZMB1-4-A20** 109482		**LZMC1-4-A20** 109492	
25	20…25	20…25	350	**LZMB1-4-A25** 109483		**LZMC1-4-A25** 109493	
32	25…32	25…32	350	**LZMB1-4-A32** 109484		**LZMC1-4-A32** 109494	
40	32…40	32…40	320…400	**LZMB1-4-A40** 109485		**LZMC1-4-A40** 109495	
50	40…50	40…50	300…500	**LZMB1-4-A50** 109486		**LZMC1-4-A50** 109496	
63	50…63	50…63	380…630	**LZMB1-4-A63** 109487		**LZMC1-4-A63** 109497	
80	63…80	63…80	480…800	**LZMB1-4-A80** 109488		**LZMC1-4-A80** 109498	
100	80…100	80…100	600…1000	**LZMB1-4-A100** 109489		**LZMC1-4-A100** 109499	
125	100…125	100…125	750…1250	**LZMB1-4-A125** 109490		**LZMC1-4-A125** 109500	
160	125…160	125…160	1280	**LZMB1-4-A160** 109491		**LZMC1-4-A160** 109501	

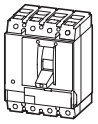
Notes Notes for terminals → 21

Normal switching capacity **50 kA** at 415 V 50/60 Hz		Strong switching capacity **70 kA** at 415 V 50/60 Hz			
Part no. Article no.	**Price** see price list	**Part no.** Article no.	**Price** see price list	Std. pack	**Notes**
LZMN1-4-A20 109502		**LZMS1-4-A20** 109512		1 off	IEC/EN 60947-2 Adjustable overload releases I_r • 0.8 – 1 × I_n (ex-works 0.8 × I_n) Setting on neutral pole implemented via the main pole setting I_r of the main pole. Adjustable short-circuit releases I_i • 6 – 10 × I_n (ex-works 6 × I_n) – LZM…1-4-A40: 8 – 10 × I_n (ex-works 8 × I_n) Fixed short-circuit release I_i • 350 A at I_n = 20 – 32 A • 1280 A at I_n = 160 A (8 × I_n) LZM..1-4-A… • With 100 % overload and short-circuit protection in 4th pole
LZMN1-4-A25 109503		**LZMS1-4-A25** 109513		1 off	
LZMN1-4-A32 109504		**LZMS1-4-A32** 109514		1 off	
LZMN1-4-A40 109505		**LZMS1-4-A40** 109515		1 off	
LZMN1-4-A50 109506		**LZMS1-4-A50** 109516		1 off	
LZMN1-4-A63 109507		**LZMS1-4-A63** 109517		1 off	
LZMN1-4-A80 109508		**LZMS1-4-A80** 109518		1 off	
LZMN1-4-A100 109509		**LZMS1-4-A100** 109519		1 off	
LZMN1-4-A125 109510		**LZMS1-4-A125** 109520		1 off	
LZMN1-4-A160 109511		**LZMS1-4-A160** 109521		1 off	

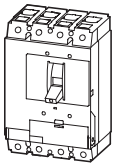
Thermomagnetic release, 4 pole LZM…2, LZM…3

Rated current = rated uninterrupted current	Setting range Overload releases		Short-circuit releases	Basic switching capacity **25 kA** at 415 V 50/60 Hz		Comfort switching capacity **36 kA** at 415 V 50/60 Hz	
	Main pole	Neutral conductor		**Part no.** Article no.	**Price** see price list	**Part no.** Article no.	**Price** see price list
$I_n = I_u$	I_r	I_r	I_i				
A	A	A	A				
Protection of systems and cables							
4 pole							
20	15…20	15…20	350				
25	20…25	20…25	350				
32	25…32	25…32	350				
40	32…40	32…40	320…400				
50	40…50	40…50	300…500				
63	50…63	50…63	380…630				
80	63…80	63…80	480…800				
100	80…100	80…100	600…1000				
125	100…125	100…125	750…1250				
160	125…160	125…160	960…1600	**LZMB2-4-A160** 109564		**LZMC2-4-A160** 109570	
160	125…160	80…100	960…1600	**LZMB2-4-A160/100** 109565		**LZMC2-4-A160/100** 109571	
200	160…200	160…200	1200…2000	**LZMB2-4-A200** 109566		**LZMC2-4-A200** 109572	
200	160…200	100…125	1200…2000	**LZMB2-4-A200/125** 109567		**LZMC2-4-A200/125** 109573	
250	200…250	200…250	1500…2500	**LZMB2-4-A250** 109568		**LZMC2-4-A250** 109574	
250	200…250	125…160	1500…2500	**LZMB2-4-A250/160** 109569		**LZMC2-4-A250/160** 109575	
320	250…320	250…320	1920…3200			**LZMC3-4-A320** 109621	
320	250…320	160…200	1920…3200			**LZMC3-4-A320/200** 109622	
400	320…400	320…400	2400…4000			**LZMC3-4-A400** 109623	
400	320…400	200…250	2400…4000			**LZMC3-4-A400/250** 109624	
500	400…500	400…500	3000…5000			**LZMC3-4-A500** 109625	
500	400…500	250…320	3000…5000			**LZMC3-4-A500/320** 109626	

Terminal screws standard, terminals as accessories



Terminal screws standard, terminals as accessories



Notes Notes for terminals → 25

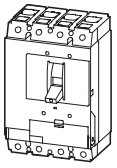
Normal switching capacity **50 kA** at 415 V 50/60 Hz		Strong switching capacity **70 kA** at 415 V 50/60 Hz			
Part no. Article no.	**Price** see price list	**Part no.** Article no.	**Price** see price list	Std. pack	**Notes**
		LZMS2-4-A20 109582		1 off	IEC/EN 60947-2
		LZMS2-4-A25 109583		1 off	Adjustable overload releases I_r • 0.8 – 1 × I_n (ex-works 0.8 × I_n)
		LZMS2-4-A32 109584		1 off	Setting on neutral pole implemented via the main pole setting I_r of the main pole.
		LZMS2-4-A40 109585		1 off	Adjustable short-circuit releases I_i • 6 – 10 × I_n (ex-works 6 × I_n)
		LZMS2-4-A50 109586		1 off	Fixed short-circuit release I_i • 350 A at I_n = 20 – 32 A
		LZMS2-4-A63 109587		1 off	LZM..2/3-4-A… • With 100 % overload and short-circuit protection in 4th pole
		LZMS2-4-A80 109588		1 off	LZM..2/3-4-A…/60 • With 60 % overload and short-circuit protection in 4th pole
		LZMS2-4-A100 109589		1 off	
		LZMS2-4-A125 109590		1 off	
LZMN2-4-A160 109576		**LZMS2-4-A160** 109591		1 off	
LZMN2-4-A160/100 109577		**LZMS2-4-A160/100** 109592		1 off	
LZMN2-4-A200 109578		**LZMS2-4-A200** 109593		1 off	
LZMN2-4-A200/125 109579		**LZMS2-4-A200/125** 109594		1 off	
LZMN2-4-A250 109580		**LZMS2-4-A250** 109595		1 off	
LZMN2-4-A250/160 109581		**LZMS2-4-A250/160** 109596		1 off	
LZMN3-4-A320 109627		**LZMS3-4-A320** 109633			
LZMN3-4-A320/200 109628		**LZMS3-4-A320/200** 109634			
LZMN3-4-A400 109629		**LZMS3-4-A400** 109635			
LZMN3-4-A400/250 109630		**LZMS3-4-A400/250** 109636			
LZMN3-4-A500 109631		**LZMS3-4-A500** 109637			
LZMN3-4-A500/320 109632		**LZMS3-4-A500/320** 109638			

Circuit-breakers, electronic releases, 4 pole LZM…3, LZM…4

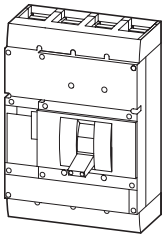
Normal switching capacity **50 kA** at 415 V 50/60 Hz

Rated current = rated uninterrupted current	**Setting range** Overload releases		Short-circuit releases	**Part no.** Article no.	**Price** see price list
	Main pole	Neutral conductor			
$I_n = I_u$	I_r	I_r	I_i		
A	A	A	A		
Protection of systems and cables					
4 pole					
400	200…400	200…400	800…4400	**LZMN3-4-AE400** 109643	
400	200…400	125…250	800…4400	**LZMN3-4-AE400/250** 109644	
630	315…630	315…630	1260…5040	**LZMN3-4-AE630** 109645	
630	315…630	200…400	1260…5040	**LZMN3-4-AE630/400** 109646	
800	400…800	400…800	1600…9600	**LZMN4-4-AE800** 110968	
800	400…800	250…500	1600…9600	**LZMN4-4-AE800/500** 110969	
1000	500…1000	500…1000	2000…12000	**LZMN4-4-AE1000** 110970	
1000	500…1000	315…630	2000…12000	**LZMN4-4-AE1000/630** 110971	
1250	630…1250	630…1250	2500…15000	**LZMN4-4-AE1250** 110972	
1250	630…1250	400…800	2500…15000	**LZMN4-4-AE1250/800** 110973	
1600	800…1600	800…1600	3200…19200	**LZMN4-4-AE1600** 110974	
1600	800…1600	500…1000	3200…19200	**LZMN4-4-AE1600/1000** 110975	

Terminal screws standard, terminals as accessories



Terminal screws standard, terminals as accessories



Notes Notes for terminals → 29

Strong switching capacity **70 kA**
at 415 V 50/60 Hz

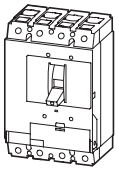
Part no. Article no.	**Price** see price list	Std. pack	**Notes**
LZMS3-4-AE400 109647		1 off	IEC/EN 60947-2 Adjustable overload releases I_r • 0.5 – 1 × I_n (ex-works 0.8 × I_n) Setting on neutral pole implemented via the main pole setting I_r of the main pole. R.m.s. value measurement and "thermal memory" Adjustable short-circuit releases I_i • LZM...3-4-AE400: 2 – 11 × I_n (ex-works 6 × I_n) • LZM...3-4-AE630: 2 – 8 × I_n (ex-works 6 × I_n) • LZM...4-4-AE...: 2 – 12 × I_n (ex-works 6 × I_n) LZM...-4-AE... • With 100 % overload and short-circuit protection in 4th pole LZM...-4-AE.../... • With 60 % overload and short-circuit protection in 4th pole
LZMS3-4-AE400/250 109648		1 off	
LZMS3-4-AE630 109649		1 off	
LZMS3-4-AE630/400 109650		1 off	
LZMS4-4-AE800 110976		1 off	
LZMS4-4-AE800/500 110977		1 off	
LZMS4-4-AE1000 110978		1 off	
LZMS4-4-AE1000/630 110979		1 off	
LZMS4-4-AE1250 110980		1 off	
LZMS4-4-AE1250/800 110981		1 off	
LZMS4-4-AE1600 110982		1 off	
LZMS4-4-AE1600/1000 110983		1 off	

Circuit-breakers, electronic releases, 4 pole LZM…3, LZM…4

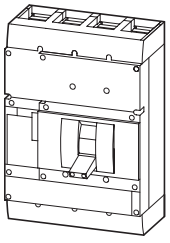
Normal switching capacity **50 kA**
at 415 V 50/60 Hz

Rated current = rated uninterrupted current	**Setting range** Overload releases		Short-circuit releases		**Part no.** Article no.	**Price** see price list
	Main pole	Neutral conductor	Non-delayed	Delayed short-circuit release		
$I_n = I_u$	I_r	I_r	I_i	I_{sd}		
A	A	A	A	A		
						
Systems and cable protection, selectivity and generator protection						
4 pole						
400	200…400	200…400	800…4400	400…4000	**LZMN3-4-VE400** 109655	
400	200…400	125…250	800…4400	400…4000	**LZMN3-4-VE400/250** 109656	
630	315…630	315…630	1260…5040	472…4410	**LZMN3-4-VE630** 109657	
630	315…630	200…400	1260…5040	472…4410	**LZMN3-4-VE630/400** 109658	
800	400…800	400…800	1600…9600	800…8000	**LZMN4-4-VE800** 110984	
800	400…800	250…500	1600…9600	800…8000	**LZMN4-4-VE800/500** 110985	
1000	500…1000	500…1000	2000…12000	1000…10000	**LZMN4-4-VE1000** 110986	
1000	500…1000	315…630	2000…12000	1000…10000	**LZMN4-4-VE1000/630** 110987	
1250	630…1250	630…1250	2500…15000	1250…12500	**LZMN4-4-VE1250** 110988	
1250	630…1250	400…800	2500…15000	1250…12500	**LZMN4-4-VE1250/800** 110989	
1600	800…1600	800…1600	3200…19200	1600…16000	**LZMN4-4-VE1600** 110990	
1600	800…1600	500…1000	3200…19200	1600…16000	**LZMN4-4-VE1600/1000** 110991	

Terminal screws standard, terminals as accessories



Terminal screws standard, terminals as accessories



Notes Notes for terminals → 29

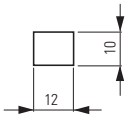
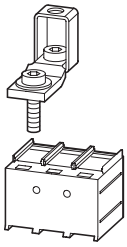
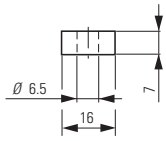
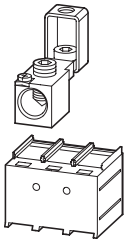
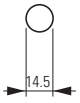
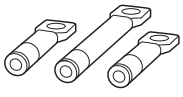
Strong switching capacity **70 kA**
at 415 V 50/60 Hz

Part no. Article no.	**Price** see price list	Std. pack	**Notes**
LZMS3-4-VE400 109659		1 off	IEC/EN 60947-2
LZMS3-4-VE400/250 109660		1 off	Adjustable overload releases I_r • 0.5 – 1 × I_n (ex-works 0.8 × I_n)
LZMS3-4-VE630 109661		1 off	Setting on neutral pole implemented via the main pole setting I_r of the main pole.
LZMS3-4-VE630/400 109662		1 off	R.m.s. value measurement and "thermal memory"
LZMS4-4-VE800 110992		1 off	Adjustable time delay setting to overcome current peaks t_r • 2 … 20 s with 6 × I_r as well as infinity (without overload release) (ex-factory 10 s) – LZM...3-4-VE630: 2 – 14 s at 6 × I_r also infinity (without overload release)
LZMS4-4-VE800/500 110993		1 off	Adjustable delayed short-circuit releases I_{sd} • 2 – 10 × I_r (ex-works 6 × I_r) – LZM...3-4-VE630: 1.5 – 7 × I_r (ex-works 6 × I_r)
LZMS4-4-VE1000 110994		1 off	
LZMS4-4-VE1000/630 110995		1 off	Adjustable delay time t_{sd} • Steps: 0, 20, 60, 100, 200, 300, 500, 750, 1000 ms (ex-works 0 ms)
LZMS4-4-VE1250 110996		1 off	Adjustable non-delayed short-circuit releases I_i • LZM...3-4-VE400: 2 – 11 × I_n (ex-works 6 × I_n) • LZM...3-4-VE630: 2 – 8 × I_n (ex-works 6 × I_n) • LZM...4-4-VE...: 2 – 12 × I_n (ex-works 12 × I_n)
LZMS4-4-VE1250/800 110997		1 off	
LZMS4-4-VE1600 110998		1 off	i^2t constant function (ex-works OFF) • LZM3, LZM4 switched (ex-works OFF)
LZMS4-4-VE1600/1000 110999		1 off	LZM...-4-VE... • With 100 % overload and short-circuit protection in 4th pole LZM...-4-VE.../... • With 60 % overload and short-circuit protection in 4th pole

Circuit-breakers LZM

Ordering

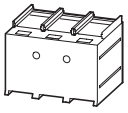
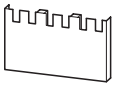
Connection types LZM1

	Max. cable connection area	For use with		Terminal capacities Type of conductor		AWG/kcmil
					mm²	
Box terminal **Standard equipment** 		LZM1(-4)	Three- and four-pole	Cu cable	1 × 10 – 70[1)] 2 × 6 – 25	1 × 8 – 2/0 2 × 9 – 4
Screw connection 		LZM1(-4)	Three- and four-pole	Copper cable lugs Aluminium cable lug	1 × 10 – 70 2 × 6 – 25 1 × 10 – 35 2 × 10 – 35	1 × 8 – 2/0 2 × 8 – 4 1 × 8 – 2 2 × 8 – 2
Tunnel terminal 		LZM1(-4)	Three- and four-pole	Copper cable Al cable	1 × 16 – 95	1 × 6 – 3/0 –
Connection on rear 	–	LZM1(-4)	Three- and four-pole	Copper cable lugs Aluminium cable lug	1 × 2.5 – 25 2 × 2.5 – 25 1 × 10 – 35 2 × 10 – 35	

Notes [1)] Up to 240 mm² can be connected depending on the cable manufacturer.

Terminal capacities Cu strip (number of segments x width x segment thickness)	Copper busbar width x thickness	**Part no.** Article no. when ordered separately	Std. pack	**Notes**
mm	mm			
2 × 9 × 0.8 9 × 9 × 0.8		**NZM1-XKC** 260015	1 off	Standard connection with all switches LZM1. Conversion kit for circuit-breaker with screw connection. Type contains parts for a 3 or 4-pole switch side. Fitted within the switch housing
		NZM1-4-XKC 267075	1 off	
	min. 12 × 5 max. 16 × 5	**NZM1-XKS** 260019	1 off	Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers. Fitted outside the switch housing Mounting of the cover NZM1(-4)-XKSA obligatory (supplied).
	min. 12 × 5 max. 16 × 5	**NZM1-4-XKS** 266725	1 off	
		NZM1-XKA 266730	1 off	Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers. A standard with control circuit terminal for 1 × 0.75 – 2.5 mm² (18 – 14 AWG) or 2 × 0.75 – 1.5 mm² (18 – 14 AWG) copper conductors. Fitted outside the switch housing Use with flexible and highly flexible conductors ferrules. Maximum specified cross-section can only be connected when stranded and without ferrules. Mounting of the cover NZM1(-4)-XKSA obligatory (supplied).
		NZM1-4-XKA 266731	1 off	
	≦ 12 × 5 ≦ 16 × 5	**NZM1-XKR** 266734	1 off	Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers.
		NZM1-4-XKR 266737	1 off	

Connection types LZM1

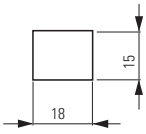
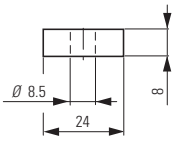
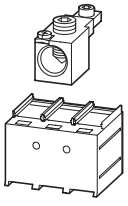
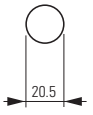
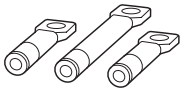
	Max. cable connection area	For use with		Terminal capacities Type of conductor		
					mm²	AWG/kcmil
Control circuit terminal 	–	LZM1(-4)	Three- and four-pole	Screw connection	1 × 0.75 – 2.5 2 × 0.75 – 1.5	1 × 18 – 14 2 × 18 – 16
Control circuit terminal 	–	LZM1(-4)	Three- and four-pole	Box terminal	1 × 0.75 – 2.5 2 × 0.75 – 1.5	1 × 18 – 14 2 × 18 – 16
Cover 	–	LZM1(-4)	3 pole			
	–	LZM1(-4)	4 pole			
For box terminals 	**Terminal cover, knockout**					
	–	LZM1	3-pole			
	–	LZM1(-4)	4 pole			
	IP2X protection against contact with a finger					
For box terminals 	–	LZM1	3 pole			
	–	LZM1(-4)	4 pole			
For cover NZM1(-4)-XKSA 	–	LZM1	3 pole			
	–	LZM1(-4)	4 pole			

Part no. Article no. when ordered separately	Std. pack	**Notes**
NZM1-XSTS 260150	1 off	Type contains parts for two terminal locations located at top or bottom for 3 or 4 pole circuit-breakers. Included as standard with tunnel terminal Degree of protection IP1X NZM-XSTK cannot be combined with NZM1(-4)-XIPK IP2X protection against contact with a finger. Height or thickness of the control terminals: NZM-XSTK = 2 mm NZM-XSTS = 2 mm
NZM-XSTK 266739	1 off	
NZM1-XKSA 260021	1 off	Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers. Protection against direct contact where cable lugs, busbars or tunnel terminals are used Contained in kit with tunnel terminals or screw connection terminals. Degree of protection IP1X on the connection side when using insulated conductor material.
NZM1-4-XKSA 266741	1 off	
NZM1-XKSFA 100780	1 off	Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers. Enhancement of the protection against direct contact (simple finger protection).
NZM1-4-XKSFA 100781	1 off	
NZM1-XIPK 266744	1 off	Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers. Enhancement of the protection against direct contact to IP2X. Protection when reaching into the cable connection area with the connection of cables in the box terminal. Cannot be combined with NZM-XSTK control circuit terminal.
NZM1-4-XIPK 266745	1 off	
NZM1-XIPA 266748	1 off	Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers. Enhancement of the protection against direct contact to IP2X.
NZM1-4-XIPA 266749	1 off	

Circuit-breakers LZM

Ordering

Connection types LZM2

	Max. cable connection area	For use with		Terminal capacities			Terminal capacities
				Type of conductor	Terminal capacities	AWG/kcmil	Cu strip (number of segments × width × segment thickness)
					mm²		mm
Box terminal 		LZM2(-4)	Three- and four-pole	Copper conductors Cu cable	1 × 4 – 185 2 × 4 – 70	1 × 11 – 350 2 × 12 – 2/0	≧2 × 9 × 0.8
Screw connection **Standard equipment** 		LZM2(-4)	Three- and four-pole	Copper cable lugs Aluminium cable lug	1 × 4 – 185 2 × 4 – 70 1 × 10 – 50 2 × 10 – 50	1 × 11 – 3/0 2 × 12 1 × 8 – 1/0 2 × 8 – 1/0	≧2 × 16 × 0.8
Tunnel terminal 		LZM2(-4)	Three- and four-pole	Copper cable Al cable	1 × 16 … 185 1 × 16 … 185	1 × 6 – 350 –	
Connection on rear 	**Connection on rear** When using cable lugs without NZM3(-4)-XKSA cover, they must be insulated.						
		LZM2(-4)	Three- and four-pole	Copper cable lugs Aluminium cable lug	1 × 4 – 185 2 × 4 – 70 1 × 10 – 50 2 × 10 – 50		≧2 × 16 × 0.8 ≦6 × 24 × 0.5

Notes

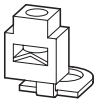
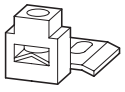
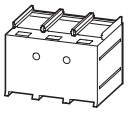
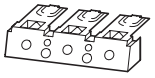
[1] Up to 240 mm² can be connected depending on the cable manufacturer.

Copper busbar width × thickness mm	**Part no.** Article no. when ordered with basic unit	**Part no.** Article no. when ordered separately	Std. pack	**Notes**
	+NZM2-160-XKCO 262218	**NZM2-160-XKC** 262240	1 off	Type suffix and type contain parts for a circuit-breaker side at top or bottom for 3 or 4 pole circuit-breakers. Conversion kit for circuit-breaker with screw connection. Fitted within the switch housing O = for fitting at the top U = for fitting at the bottom U_e ≧ 525 V AC: • Use cover NZM2(4)-XKSA. Use ferrules with flexible and highly flexible conductors. Max. cross section shown can only be connected when flexible and without ferrules.
	+NZM2-160-XKCU 262223		1 off	
	+NZM2-250-XKCO 262242	**NZM2-250-XKC** 262244	1 off	
	+NZM2-250-XKCU 262243		1 off	
	+NZM2-4-160-XKCO 266751	**NZM2-4-160-XKC** 266755	1 off	
	+NZM2-4-160-XKCU 266753		1 off	
	+NZM2-4-250-XKCO 266752	**NZM2-4-250-XKC** 266756	1 off	
	+NZM2-4-250-XKCU 266754		1 off	
≧ 16 × 5		**NZM2-XKS** 260030	1 off	Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers. Standard connection with all LZM2 circuit-breakers. Conversion kit for circuit-breaker with box terminal. Use special cable lug narrow version, → 27 Fitted within the switch housing If a busbar is used, insulation (400 mm) e.g sleeving and a NZM2(-4)-XKSA cover are required. U_e ≧ 525 V AC: • For all other connection material a NZM2(-4)-XKSA shroud must be used.
		NZM2-4-XKS 266750	1 off	
		NZM2-XKA 271457	1 off	Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers. A standard with control circuit terminal for 1 × 0.75 – 2.5 mm² (18 – 14 AWG) or 2 × 0.75 – 1.5 mm² (18 – 16 AWG) copper conductors. Fitted outside the switch housing Use with flexible and highly flexible conductors ferrules. Maximum specified cross-section can only be connected when stranded and without ferrules. Mounting of the cover NZM2(-4)-XKSA obligatory (supplied).
		NZM2-4-XKA 271458	1 off	
≧ 16 × 5 ≦ 20 × 5	**+NZM2-XKRO** 266763	**NZM2-XKR** 266765	1 off	Type suffix and type contain parts for a circuit-breaker side at top or bottom for 3 or 4 pole circuit-breakers. O = for fitting at the top U = for fitting at the bottom
	+NZM2-XKRU 266764	**NZM2-4-XKR** 266768	1 off	
	+NZM2-4-XKRO 266766		1 off	
	+NZM2-4-XKRU 266767		1 off	

Circuit-breakers LZM

Ordering

Connection types LZM2

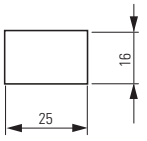
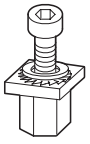
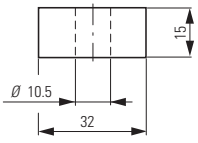
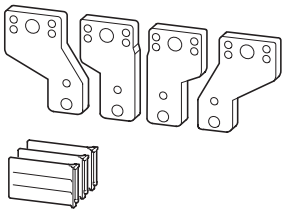
Max. cable connection area	For use with		Terminal capacities Type of conductor	Terminal capacities	AWG/kcmil
				mm²	
Control circuit terminal 	LZM2(-4)	Three- and four-pole	Screw connection	2 × 0.75 – 2.5 2 × 0.75 – 1.5	1 × 18 – 14 2 × 18 – 16
Control circuit terminal 	LZM3(-4)	Three- and four-pole	Box terminal	1 × 0.75 – 2.5 2 × 0.75 – 1.5	1 × 18 – 14 2 × 18 – 16
Cover 	LZM2	3 pole			
	LZM2(-4)	4 pole			
Connection cover, knockout 	LZM2	3 pole			
	LZM2(-4)	4 pole			
IP2X protection against contact with a finger					
For box terminals 	LZM2	3 pole			
	LZM2(-4)	4 pole			
For covers NZM2(-4)-XKSA or NZM2(-4) 	LZM2	3 pole			
	LZM2(-4)	4 pole			
Copper cable lug 	**Copper cable lug**				
	When using cable lugs without NZM3(-4)-XKSA cover, they must be insulated.				
95 mm²	LZM2(-4)	Three- and four-pole			
120 mm²	LZM2(-4)	Three- and four-pole			
150 mm²	LZM2(-4)	Three- and four-pole			
185 mm²	LZM2(-4)	Three- and four-pole			

Copper busbar width × thickness mm	**Part no.** Article no. when ordered separately	Std. pack	**Notes**
	NZM2-XSTS 260156	1 off	Type contains parts for two terminal locations located at top or bottom for 3 or 4 pole circuit-breakers. Included as standard with tunnel terminal Degree of protection IP1X NZM-XSTK cannot be combined with NZM2(-4)-XIPK IP2X protection against contact with a finger. Height or thickness of the control circuit terminals: NZM-XSTK = 2 mm NZM-XSTS = 2 mm
	NZM-XSTK 266739	1 off	
	NZM2-XKSA 260038	1 off	Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers. Protection against direct contact where cable lugs, busbars or tunnel terminals are used Degree of protection IP1X on the connection side when using insulated conductor material.
	NZM2-4-XKSA 266770	1 off	
	NZM2-XKSFA 104640	1 off	Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers. Enhancement of the protection against direct contact (simplified protection against contact with a finger).
	NZM2-4-XKSFA 104641	1 off	
	NZM2-XIPK 266773	1 off	Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers. Enhancement of the protection against direct contact to IP2X. Protection when reaching into the cable connection area with the connection of cables in the box terminal. With 2 conductors minimum cross-section 25 mm². Cannot be combined with NZM-XSTK control circuit terminal.
	NZM2-4-XIPK 266774	1 off	
	NZM2-XIPA 266777	1 off	Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers. Enhancement of the protection against direct contact to IP2X.
	NZM2-4-XIPA 266778	1 off	
	KS95-NZM7 059775	3 off	Type contains a cable lug for 3 pole or 4 pole switches. Special cable lug, narrow style
	KS120-NZM7 059776	3 off	
	KS150-NZM7 059777	3 off	
	NZM2-XKS185 260032	3 off	

Circuit-breakers LZM

Ordering

Connection types LZM3

Max. cable connection area	Rated current [1] I_n	For use with		Terminal capacities		
				Type of conductor	Terminal capacities	AWG/kcmil
	A				mm^2	
Box terminal  	max. 500 400 UL/CSA	LZM3(-4)	Three- and four-pole	Copper conductors Cu cable	1 × 35 – 240 2 × 16 – 120	1 × 2 – 500
	630	LZM3(-4)	Three- and four-pole	Copper conductors Cu cable	1 × 35 – 240 2 × 16 – 120	1 × 2 – 500
Screw connection  	630	LZM3(-4)	Three- and four-pole	Copper cable lugs Aluminium cable lug	1 × 16 – 240 2 × 16 – 240 1 × 10 – 120 2 × 10 – 120	1 × 4 – 350 2 × 350
	max. 400					
Connection width extension 	630	LZM3(-4)	Three- and four-pole	Copper cable lugs Aluminium cable lug	2 × 300	2 × 500

Notes

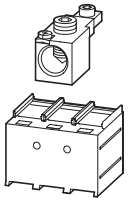
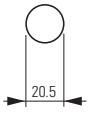
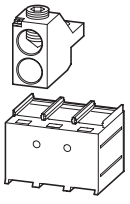
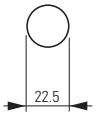
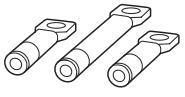
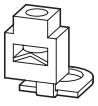
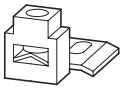
[1] The following applies for the rated current: The values have been determined conform to IEC/EN 60947 (switchgear standard) and generally relate to the max. defined cross-sections and are intended for the purpose of orientation.

Terminal capacities		**Part no.** Article no. when ordered with basic unit	**Part no.** Article no. when ordered separately	Std. pack	**Notes**
Cu strip (number of segments × width × segment thickness) mm	Copper busbar width × thickness mm				
min. 6 × 16 × 0.8 max. 20 × 24 × 0.5 or max. 11 × 21 × 1		**+NZM3-XKCO** 262246	**NZM3-XKC** 260042	1 off	Type suffix and type contain parts for a circuit-breaker side at top or bottom for 3 or 4 pole circuit-breakers. Conversion kit for circuit-breaker with screw connection. Fitted within the switch housing O = for fitting at the top U = for fitting at the bottom U_e ≧ 525 V AC: • Use NZM3(-4)-XKSA cover. Use with flexible and highly flexible conductors ferrules, note the max. terminal capacity when using ferrules.
		+NZM3-XKCU 262245		1 off	
min. 6 × 16 × 0.8 max. 20 × 24 × 0.5 or max. 11 × 21 × 1		**+NZM3-4-XKCO** 266781	**NZM3-4-XKC** 266783	1 off	
		+NZM3-4-XKCU 266782		1 off	
10 × 32 × 1.0 + 5 × 32 × 1.0	30 × 10 + 30 × 5		**NZM3-XKS** 260039	1 off	Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers. Standard connection with all LZM3 circuit-breakers. Conversion kit for circuit-breaker with box terminal. Use special cable lugs narrow version, → 32 Fitted within the switch housing When a busbar is used insulation is required (400 mm) e.g. using heat shrink and a shroud NZM3(-4)-XKSA. U_e ≧ 525 V AC: A shroud NZM3(-4)-XKSA must be used with all other connection types.
			NZM3-4-XKS 266780	1 off	
(2 ×) 10 × 50 × 1..0	(2 ×) 10 × 50		**NZM3-XKV70** 100514	1 off	Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers. Central drill holes, e.g. for up to 2 cable lugs per phase. Can be fitted to circuit-breaker with screw termination Phase isolator supplied. Distance between pole centres with NZM3(-4)-XKV70: 70 mm Drill hole available for control cable. Connection terminals NZM3(-4)-XK300 and NZM3(-4)-XK22X21 can be installed.
			NZM3-4-XKV70 100515	1 off	

Circuit-breakers LZM

Ordering

Connection types LZM3

	Max. cable connection area	Rated current [1]	For use with		Terminal capacities		
					Type of conductor	Terminal capacities	AWG/kcmil
		I_n A				mm²	
Terminals for connection width extension 		max. 500	LZM3	3 pole	Cu cable	1 × 120 – 300	
		max. 500	LZM3(-4)	4 pole	Cu cable	1 × 120 – 300	
Terminals for connection width extension 		630	LZM3	3 pole			
		630	LZM3(-4)	4 pole			
Tunnel terminal 	–	max. 350	LZM3(-4)	Three- and four-pole	Copper conductors Cu cable Al conductors Al cable	1 × 16 – 185 [2]	1 × 6 – 350 –
		max. 350	LZM3(-4)				
Tunnel terminal 	–	max. 630	LZM3(-4)	Three- and four-pole	Copper conductors Cu cable Al conductors Al cable	1 × 50 – 240 2 × 50 – 240	1 × 0 – 500 2 × 0 – 500
		max. 630	LZM3(-4)				
Connection on rear not UL/CSA approved 		max. 630	LZM3(-4)	Three- and four-pole	Copper cables Cu cable	1 × 16 – 240 2 × 16 – 240	
		max. 500	–	–		1 × 10 – 120 2 × 10 – 120	
Control circuit terminal 		–	LZM3(-4)	Three- and four-pole	Screw connection	1 × 0.75 – 2.5 2 × 0.75 – 1.5	1 × 18 – 14 2 × 18 – 16
Control circuit terminal 		–	LZM3(-4)	Three- and four-pole	Box terminal	1 × 0.75 – 2.5 2 × 0.75 – 1.5	1 × 18 – 14 2 × 18 – 16

Notes

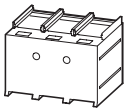
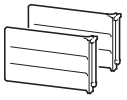
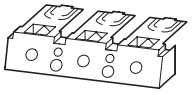
[1] The following applies for the rated current: The values have been determined conform to IEC/EN 60947 (switchgear standard) and generally relate to the max. defined cross-sections and are intended for the purpose of orientation.
The engineering standards which apply in each case must be observed.

Terminal capacities Cu strip (number of segments × width × segment thickness) mm	Copper busbar width × thickness mm	**Part no.** Article no. when ordered with basic unit	**Part no.** Article no. when ordered separately	Std. pack	**Notes**
			NZM3-XK300 100782	1 off	Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers. Only in conjunction with connection width extension NZM3(-4)-XKV70. Use with flexible and highly flexible conductors ferrules.
			NZM3-4-XK300 100783	1 off	
(2 ×) 11 × 21 × 1..0			**NZM3-XK22X21** 100784	1 off	Standard with control circuit terminal for 1 × 0.75 – 2.5 mm² or 2 × 0.75 – 1.5 mm² copper conductors.
(2 ×) 11 × 21 × 1..0			**NZM3-4-XK22X21** 100785	1 off	
			NZM3-XKA1 271459	1 off	Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers. A standard with control circuit terminal for 1 × 0.75 – 2.5 mm² (18 – 14 AWG) or 2 × 0.75 – 1.5 mm² (18 – 16 AWG) copper conductors. Fitted outside the switch housing Use with flexible and highly flexible conductors ferrules. Maximum specified cross-section can only be connected when stranded and without ferrules. Mounting of the cover NZM3(-4)-XKSA obligatory (supplied).
			NZM3-4-XKA1 271460	1 off	
			NZM3-XKA2 271461	1 off	
			NZM3-4-XKA2 271462	1 off	
		+NZM3-XKRO 266790	**NZM3-XKR** 266792	1 off	Type suffix and type c ontain parts for a circuit-breaker side at top or bottom for 3 or 4 pole circuit-breakers. O = for fitting at the top U = for fitting at the bottom
		+NZM3-XKRU 266791	**NZM3-4-XKR** 266795	1 off	
		+NZM3-4-XKRO 266793			
		+NZM3-4-XKRU 266794			
min. 6 × 16 × 0.8 mix. 10 × 32 × 1.0	Min. 20 × 5 Max. 30 × 10				
			NZM3/4-XSTS 266797	1 off	Type contains parts for two terminal locations located at top or bottom for 3 or 4 pole circuit-breakers. Included as standard with tunnel terminal Degree of protection IP1X Height or thickness of the control circuit terminals NZM-XSTS = 2 mm
			NZM-XSTK 266739	1 off	

Circuit-breakers LZM

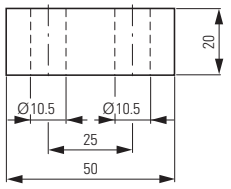
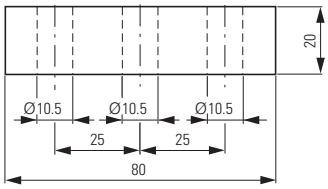
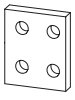
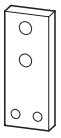
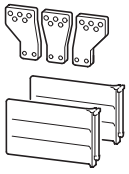
Ordering

Connection types LZM3

		Max. cable connection area	For use with		Part no. Article no. when ordered separately
Cover 	–	–	LZM3(-4)	3 pole	**NZM3-XKSA** 260045
	–	–		4 pole	**NZM3-4-XKSA** 266801
Phase isolator 	–	–	LZM3(-4)	3 pole	**NZM3-XKP** 100512
	–	–		4 pole	**NZM3-4-XKP** 100513
Connection cover, knockout 	–	–	LZM3(-4)	3 pole	**NZM3-XKSFA** 104642
	–	–		4 pole	**NZM3-4-XKSFA** 104643
	IP2X protection against contact with a finger				
IP2X protection against contact with a finger 		–	LZM3(-4)	3 pole	**NZM3-XIPK** 266804
				4 pole	**NZM3-4-XIPK** 266805
For cover NZM3(-4)-XKSA 		–	LZM3(-4)	3 pole	**NZM3-XIPA** 266808
		–		4 pole	**NZM3-4-XIPA** 266809
Copper cable lug 	**Copper cable lug**				
	When using cable lugs without NZM3(-4)-XKSA cover, they must be insulated.				
	185 mm²	–	LZM3(-4) LZM4(-4)	3 and 4 pole	**NZM3-XKS185** 260040
	900 mm²	–		3 and 4 pole	**NZM3-XKS240** 260041

Std. pack	**Notes**
1 off	Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers. Insulation/protection against direct contact where cable lugs, busbars or tunnel terminals are used.
1 off	Included in set with tunnel terminals Degree of protection IP1X on the connection side when using insulated conductor material.
1 off	Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers. Included with the connection width extension.
1 off	Cannot be combined with the NZM3(-4)-XKA tunnel terminal, NZM3(-4)-XKR connection on rear. Insulation protection with connection of cable lugs, busbars or braid.
1 off	Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers. Enhancement of the protection against direct contact to (simplified protection against contact with a finger).
1 off	
1 off	Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers. Enhancement of the protection against direct contact to IP2X.
1 off	Protection when reaching into the cable connection area with the connection of cables in the box terminal. With 2 conductors minimum cross-section 70 mm². Cannot be combined with NZM-XSTK control circuit terminal.
1 off	Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers. Enhancement of the protection against direct contact to IP2X.
1 off	
3 off	Type contains a cable lug for 3-pole or 4 pole switches. Special cable lug, narrow style
3 off	

Connection types LZM4

Max. cable connection area	Rated current [1] I_n A	For use with		Terminal capacities: Type of conductor	Terminal capacities mm²	AWG/kcmil
2-hole	**Screw connection**					
Standard equipment						
	max. 1250	LZM4(-4)	Three- and four-pole	Cu cable lugs	1 × 120 – 185 4 × 50 – 185	1 × 250 – 350 4 × 0 – 350
	1600	LZM4(-4)	Three- and four-pole			
3-hole	2000	LZM4	3 pole	Cu cable lugs		
						
	Module plate					
Single hole	max. 1250	LZM4	3 pole	Copper cable lugs	1 × 120 – 300 2 × 95 – 300	1 × 250 – 600 2 × 000 – 600
	max. 1250	LZM4-4	4 pole	Copper cable lugs	1 × 120 – 300 2 × 95 – 300	1 × 250 – 600 2 × 000 – 600
Double hole	max. 1400	LZM4	3 pole	Copper cable lugs	2 × 95 – 185 4 × 35 – 185 4 × 50	2 × 000 – 350 4 × 2 – 350
	max. 1400	LZM4-4	4 pole	Copper cable lugs		
Double hole	max. 1250	LZM4	3 pole	Copper cable lugs	2 × 95 – 300	2 × 000– 600
	max. 1250	LZM4-4	4 pole	Copper cable lugs	2 × 95 – 300	2 × 000– 600
	max. 1600	LZM4	3 pole	Copper cable lugs	2 × 95 – 300	2 × 000– 500
	max. 1600	LZM4-4	4 pole	Copper cable lugs	2 × 95 – 300	2 × 000– 500
Connection width extension	max. 1600	LZM4	3 pole	Cu cable lugs	4 × 300 6 × 95 – 240	4 × 600 6 × 000– 500
	max. 1600	LZM4	3 pole	Cu cable lugs	4 × 300 6 × 95 – 240	4 × 600 6 × 000– 500
	max. 1600	LZM4-4	4 pole	Cu cable lugs	4 × 300 6 × 95 – 240	4 × 600 6 × 000– 500
	max. 1600	LZM4-4	4 pole	Cu cable lugs	4 × 300 6 × 95 – 240	4 × 600 6 × 000– 500

Notes

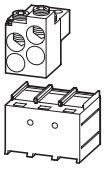
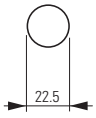
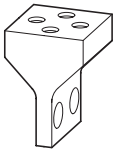
[1] The following applies for the rated current: The values have been determined conform to IEC/EN 60947 (switchgear standard) and generally relate to the max. defined cross-sections and are intended for the purpose of orientation.

Terminal capacities Cu strip (number of segments × width × segment thickness) mm	Copper busbar width × thickness mm	**Part no.** Article no. when ordered separately	Std. pack	**Notes**
(2 ×) 10 × 50 × 1.0	(2 ×) 50 × 10		1 off	Double hole fitting for M10 screws with 25 mm clearance. Use special cable lug narrow version. U_e ≧ 525 V or cross-section > 185 mm²: Use of shroud NZM4(-4)-XKSA required.
(2 ×) 10 × 50 × 1.0	(2 ×) 50 × 10		1 off	
	(2 ×) 80 × 10		1 off	Triple hole fitting for M10 screws with 25 mm pitch. Phase divider for insultion above is supplied.
(2 ×) 10 × 40 × 1.0 (2 ×) 10 × 50 × 1.0	(2 ×) 40 × 10 (2 ×) 50 × 10	**NZM4-XKM1** 266814	1 off	Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers. For M10 screws. Can be enlarged for M12 screws. Use special cable lug narrow version. Can be fitted to circuit-breaker with screw termination Insulation through NZM4(-4)-XKSA cover or NZM4(-4)-XKP phase separator necessary
(2 ×) 10 × 40 × 1.0 (2 ×) 10 × 50 × 1.0	(2 ×) 40 × 10 (2 ×) 50 × 10	**NZM4-4-XKM1** 266815	1 off	
(2 ×) 10 × 40 × 1.0 (2 ×) 10 × 50 × 1.0	(2 ×) 40 × 10 (2 ×) 50 × 10	**NZM4-XKM2** 266820	1 off	
(2 ×) 10 × 40 × 1.0 (2 ×) 10 × 50 × 1.0	(2 ×) 40 × 10 (2 ×) 50 × 10	**NZM4-4-XKM2** 266821	1 off	
(2 ×) 10 × 40 × 1.0 (2 ×) 10 × 50 × 1.0	(2 ×) 40 × 10 (2 ×) 50 × 10	**NZM4-XKM2S-1250** 284471	1 off	Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers. Insulation through cover NZM4(-4)-XKSA or phase isolator NZM4(4)-XKP necessary.
(2 ×) 10 × 40 × 1.0 (2 ×) 10 × 50 × 1.0	(2 ×) 40 × 10 (2 ×) 50 × 10	**NZM4-4-XKM2S-1250** 284472	1 off	
(2 ×) 10 × 40 × 1.0 (2 ×) 10 × 50 × 1.0	(2 ×) 40 × 10 (2 ×) 50 × 10	**NZM4-XKM2S-1600** 284473	1 off	
(2 ×) 10 × 40 × 1.0 (2 ×) 10 × 50 × 1.0	(2 ×) 40 × 10 (2 ×) 50 × 10	**NZM4-4-XKM2S-1600** 284474	1 off	
min. 10 × 50 × 1.0	min. (2 ×)80 × 10	**NZM4-XKV95** 281591	1 off	Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers. Five way holes, e.g. for up to 9 cable lugs per phase. Can be fitted to circuit-breaker with screw termination Phase isolator supplied. Distance between pole centres with NZM4(-4)-XKV95: 95 mm Installation conditions for current transformer up to 130 mm width with 80 mm busbar width. Distance between pole centres with NZM4-XKV110: 107.5 mm Installation conditions for current transformer up to 135 mm width with 80 mm busbar width. Distance between pole centres with NZM4-4-XKV120: 122 mm Installation conditions for current transformer up to 164 mm width with 80 mm busbar width. 4 mm drilled holes for control circuit terminal available.
min. 10 × 50 × 1.0	min. (2 ×)80 × 10	**NZM4-XKV110** 281593	1 off	
min. 10 × 50 × 1.0	min. (2 ×)80 × 10	**NZM4-4-XKV95** 281592	1 off	
min. 10 × 50 × 1.0	min. (2 ×)80 × 10	**NZM4-4-XKV120** 281594	1 off	

Circuit-breakers LZM

Ordering

Connection types LZM4

	Max. cable connection area	Rated current [1]	For use with		Terminal capacities		
					Type of conductor	Terminal capacities	AWG/kcmil
		I_n					
		A				mm²	
Flat cable terminal 	–	max. 1100	LZM4	3 pole			
	–	max. 1100	LZM4-4	4 pole			
Tunnel terminal 	–	max. 1400	LZM4	3 pole	Copper conductors Cu cable Al conductors Al cable	1 × 50 – 240 4 × 50 – 240 1 × 50 – 240 4 × 50 – 240	1 × 0 – 500 4 × 0 – 500 1 × 0 – 500 4 × 0 – 500
	– 	max. 1400	LZM4-4	4 pole			
Connection on rear 	–	max. 1250	LZM4(-4)	Three- and four-pole	Copper cable lugs Aluminium cable lug	1 × 120 – 185 2 × 95 – 185 4 × 35 – 185 1 × 185 2 × 70 – 185 4 × 50 – 185	
	–	1600	LZM4(-4)	–			

Notes

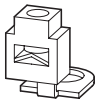
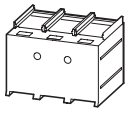
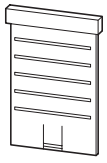
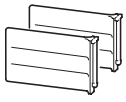
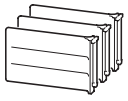
[1] The following applies for the rated current: The values have been determined conform to IEC/EN 60947 (switchgear standard) and generally relate to the max. defined cross-sections and are intended for the purpose of orientation.

Terminal capacities		**Part no.** Article no. when ordered separately	Std. pack	**Notes**
Cu strip (number of segments × width × segment thickness)	Copper busbar width × thickness			
mm	mm			
min. 6 × 16 × 0.8 max. (2 ×) 10 × 32 × 1.0		**NZM4-XKB** 266829	1 off	Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers. Conversion kit for circuit-breaker with screw connection. Insulation through cover NZM4(-4)-XKSA or phase isolator NZM4(4)-XKP necessary. With switch mpunting on conductive mounting plates use of the shroud NZM4(-4)-XKSA necessary (supplied item).
min.6 × 16 × 0.8 max. (2 ×) 10 × 32 × 1.0		**NZM4-4-XKB** 266831	1 off	
		NZM4-XKA 266836	1 off	Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers. A standard with control circuit terminal for 1 × 0.75 … 2.5 mm² (18 … 14 AWG) or 2 × 0.75 … 1.5 mm² (18 … 16 AWG) copper conductors. Can be fitted to circuit-breaker with screw termination Use ferrules with flexible and highly flexible conductors. Max. cross section shown can only be connected when flexible and without ferrules. Use of the NZM4(-4)-XKSA cover obligatory(supplied).
		NZM4-4-XKA 266837	1 off	
(2 ×) 10 × 50 × 1.0	(2 ×) 50 × 10	**NZM4-XKR** 266842	1 off	Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers. Can also be retrofitted: NZM4...-XKM... module plate or NZM4-...-XKV... connection width extension
(2 ×) 10 × 50 × 1.0	(2 ×) 50 × 10	**NZM4-4-XKR** 266843	1 off	
(2 ×) 10 × 50 × 1.0	(2 ×) 50 × 10		1 off	

Circuit-breakers LZM

Ordering

Connection types LZM4

	Max. cable connection area	For use with		Terminal capacities		
				Type of conductor	Terminal capacities	AWG/kcmil
					mm²	
Control circuit terminal 	–	LZM3(-4)	Three- and four-pole	Screw connection	1 × 0.75 – 2.5 2 × 0.75 – 1.5	1 × 18 – 14 2 × 18 – 16
Cover 	–	LZM4	3 pole			
	–	LZM4-4	4 pole			
Connection cover, knockout 	–	LZM4	3 pole			
	–	LZM4-4	4 pole			
Phase isolators 	–	LZM4	3 pole			
Phase isolators 	–	LZM4-4	4 pole			
Cable lug 	185 mm²	LZM3(-4) LZM4(-4)	3 and 4 pole			
	900 mm²	LZM3(-4) LZM4(-4)	3 and 4 pole			

Part no. Article no. when ordered separately	Std. pack	**Notes**
NZM3/4-XSTS 266797	1 off	Type contains parts for two terminal locations located at top or bottom for 3 or 4 pole circuit-breakers. Included as standard with tunnel terminal Degree of protection IP1X Height or thickness of the control circuit terminals NZM-XSTS = 2 mm
NZM4-XKSA 266846	1 off	Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers. Protection against direct contact where cable lugs, busbars, flat cable terminals or tunnel terminals are used. With module plates, flat braid terminals and tunnel terminals included in the kit. When using insulated conductor material to degree of protection: IP1X.
NZM4-4-XKSA 266847	1 off	
NZM4-XKSFA 292193	1 off	Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers. Enhancement of the protection against direct contact to (simplified protection against contact with a finger).
NZM4-4-XKSFA 292194	1 off	
NZM4-XKP 281595	1 off	Type contains parts for a terminal located at top or bottom for 3 or 4 pole circuit-breakers. Included with the connection width extension. Cannot be combined with the tunnel terminal NZM4(-4)-XKA, connection NZM4-XKR on rear. Insulation protection where cable lugs, busbars, module plates or flat cable terminals are used.
NZM4-4-XKP 281596	1 off	
NZM3-XKS185 260040	3 off	Type contains a cable lug for 3-pole or 4 pole switches. Special cable lug, narrow style
NZM3-XKS240 260041	3 off	

Circuit-breakers LZM

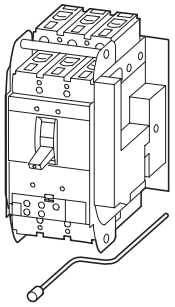
Ordering

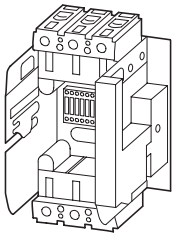
Plug-in units NZM2-XSV…

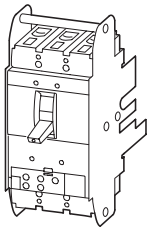
For use with	Number of poles	**Part no.** Article no. when ordered with basic unit	**Price** see price list	**Part no.** Article no. when ordered separately	**Price** see price list	Std. pack	**Notes**
Plug-in and withdrawable units							
For circuit-breakers LZM							
Plug-in adapter elements							
Plug-in adapter elements Complete Only in combination with circuit-breaker							
Terminal screws standard, terminals as accessories							
LZM2-4	4 pole	**+NZM2-4-XSV** 266698				1 off	$I_{nmax.}$ at: 20 °C: 250 A 40 °C: 230 A (LZM...2-...) Mounting position: vertical, 90° right, 90° left Order control circuit plug unit separately!
LZM2	3 pole	**+NZM2-XSV** 266697				1 off	
Sockets							
Sockets e.g. for reserved slots Retrofit of circuit-breaker with plug-in module.							
Terminal screws standard, terminals as accessories							
LZM2	3 pole			**NZM2-XSVS** 266699		1 off	
LZM2-4	4 pole			**NZM2-4-XSVS** 266700		1 off	
Removable module							
Removable module Fits socket base Only in combination with circuit-breaker							
LZM2	3 pole	**+NZM2-XSVE** 266701				1 off	
LZM2-4	4 pole	**+NZM2-4-XSVE** 266702				1 off	
Control circuit plug unit							
Control circuit plug unit							
LZM2(-4)	for auxiliary contact, shunt/undervoltage release			**NZM2-XSVHI** 266705		1 off	–
LZM2(-4)	for remote operator			**NZM2-XSVR** 266706		1 off	–

Withdrawable units NZM3-XAV…

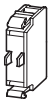
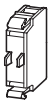
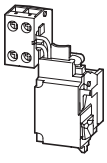
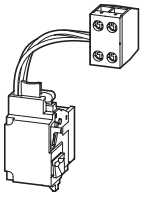
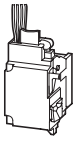
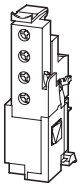
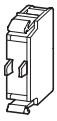
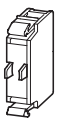
For use with	Number of poles	**Part no.** Article no. when ordered with basic unit	**Price** see price list	**Part no.** Article no. when ordered separately	**Price** see price list	Std. pack	**Notes**
Withdrawable unit with control circuit plug unit							
For circuit-breakers LZM							
Withdrawable unit with auxiliary plug-in adapter							
Withdrawable unit with auxiliary plug-in adapter Complete Only in combination with circuit-breaker							
Terminal screws standard, terminals as accessories							
LZM3	3 pole	**+NZM3-XAV** 266707				1 off	$I_{nmax.}$ at: 20 °C: 605 A (LZM3), 1600 A (LZM4) 40 °C: 550 A (LZM3), 1500 A (LZM4) Mounting position LZM3: vertical, 90° left LZM4: vertical 3 positions Connected, test, disconnected The 3 positions are indicated mechanically. Additionally, auxiliary contacts are use for remote signalling. An optional M22-(C)K01normally closed contact or M22-(C)K10 normally open contact per position Also see the RMQ-Titan control circuit device range in the Main Catalogue All connections of auxiliary switches (HIA, HIN, HIV) and voltage releases to the control circuit plug units are already present.
LZM3-4	4 pole	**+NZM3-4-XAV** 266708				1 off	
LZM4	3 pole	**+NZM4-XAV** 266709				1 off	
LZM4-4	4 pole	**+NZM4-4-XAV** 266710				1 off	
Socket base							
Socket base e.g. for reserved slots Retrofit of circuit-breaker with withdrawable carrier.							
Terminal screws standard, terminals as accessories							
LZM3	3 pole			**NZM3-XAVS** 266711		1 off	
LZM3-4	4 pole			**NZM3-4-XAVS** 266712		1 off	
LZM4	3 pole			**NZM4-XAVS** 266713		1 off	
LZM4-4	4 pole			**NZM4-4-XAVS** 266714		1 off	
Withdrawable carrier							
Withdrawable carrier							
LZM3	3 pole	**+NZM3-XAVE** 266715				1 off	
LZM3-4	4 pole	**+NZM3-4-XAVE** 266716				1 off	
LZM4	3 pole	**+NZM4-XAVE** 266717				1 off	
LZM4-4	4 pole	**+NZM4-4-XAVE** 266718				1 off	

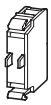
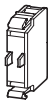




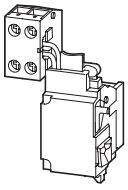
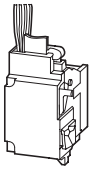


Auxiliary contact with screw terminals LZM, M22-...

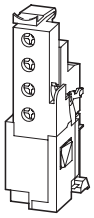
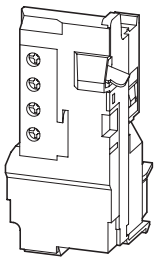
	For use with	Auxiliary contacts: ⊖ = safety function, by positive opening to IEC/EN 60947-5-1 N/O = Normally open	N/C = Normally closed	Contact sequence	**Part no.** Article no. when ordered separately	**Price** see price list
Auxiliary contacts						
Standard auxiliary contact (HIN) Switching with the main contacts Used for indicating and interlocking tasks						
	LZM1(-4), 2(-4), 3(-4), 4(-4)	1 N/O			**M22-K10** 216376	
			1 N/C ⊖		**M22-K01** 216378	
	With 3 m connection cable instead of screw termination. LZM1(-4), 2(-4), 3(-4), 4(-4)	1 N/O	1 N/C ⊖			
		2 N/O				
			2 N/C ⊖			
Early-make auxiliary contact For interlocking and load shedding circuits, as well as for early make of the undervoltage release in main switch/Emergency-Stop applications						
	With clamp terminal on the left-hand switch side. LZM1(-4)	2 N/O			**NZM1-XHIV** 259426	
	With clamp terminal on the right-hand switch side. LZM1(-4)	2 N/O			**NZM1-XHIVR** 292195	
	With 3 m connection cable instead of screw termination. LZM1(-4)	2 N/O			**NZM1-XHIVL** 259432	
	LZM2(-4), 3(-4)	2 N/O			**NZM2/3-XHIV** 259430	
	LZM4(-4)	2 N/O			**NZM4-XHIV** 266172	
Trip indicating auxiliary contact (HIA), (HIAFI) General trip indication '+', when tripped by voltage release, overload release, short-circuit release or by the residual-current release due to residual-current.						
	LZM1(-4), 2(-4), 3(-4), 4(-4)	1 N/O			**M22-K10** 216376	
			1 N/C ⊖		**M22-K01** 216378	
	With 3 m connection cable instead of screw termination. LZM1(-4), 2(-4), 3(-4), 4(-4)	1 N/O	1 N/C ⊖			
		2 N/O				
			2 N/C ⊖			

	Part no. Article no. when ordered separately	Price see price list	Std. pack	Notes	Notes
	**M22-CK10** 216384		20 off	For Std. pack: M22-(C)K... : Std. pack = 20 off	The following can be clipped into the switches: • LZM1- one standard auxiliary contact • LZM2 - up to 2 standard auxiliary contacts M22-(C)K… • LZM3 and LZM4 - up to 3 standard auxiliary contacts M22-(C)K… Any combinations of the auxiliary contact types ispossible. Marking on switch: HIN
	M22-CK01 216385		20 off		
	M22-CK11 107940		20 off		
	M22-CK20 107898		20 off		
	M22-CK02 107899		20 off		
			1 off		Not in conjunction with NZM…-XU… undervoltage release or NZM…-XA… shunt release Early make with switch on and switch off (manual actuation): approx. 20 ms
			1 off		
			1 off		
			1 off		
			1 off		Not in conjunction with undervoltage release NZM…-XU, shunt release NZM…-XA… or remote operator NZM…-XR… Early make with switch on (manual actuation): approx. 90 ms
	**M22-CK10** 216384		20 off	For Std. pack: M22-(C)K... : Std. pack = 20 off	The following can be clipped into the switches: • LZM1 - one trip-indicating auxiliary switch • LZM2 - one M22-(C)K… trip-indicating auxiliary switch • LZM3 - one M22-(C)K… trip-indicating auxiliary switch • LZM4 - up to two M22-(C)K… trip-indicating auxiliary switches Any combinations of the auxiliary contact types is possible. Marking on switch: HIA Labeling in FI-Block: HIAFI. If the trip-indicating auxiliary contact in the fault-current block is used, the N/C contacts operates as a N/O contact and the N/C contact operates as an N/O contact (circuit symbol)
	M22-CK01 216385		20 off		
	M22-CK11 107940		20 off		
	M22-CK20 107898		20 off		
	M22-CK02 107899		20 off		

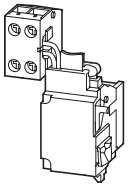
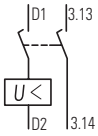
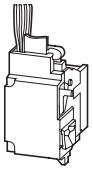
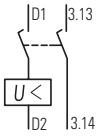
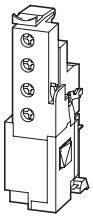
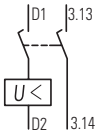
Undervoltage release with screw terminal LZM1

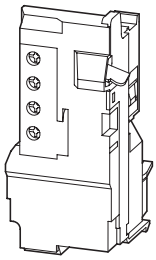
	For use with	Rated control voltage U_s V	**Part no.** Article no. when ordered separately	**Price** see price list	Std. pack	**Notes**
Undervoltage releases						
Without auxiliary contact Non-delayed disconnection of LZM circuit-breakers when the control voltage sinks below 35 – 70% U_S. For use with Emergency-Stop devices in conjunction with Emergency-Stop button.						
 	LZM1(-4)	24 V 50/60 Hz	**NZM1-XU24AC** 259434		1 off	When the undervoltage release is de-energized, accidental contact with the main contacts of the switch during attempts to switch on, is safely prevented . Undervoltage release cannot be installed simultaneously with NZM...-XHIV... early-make auxiliary contact or NZM...-XA... shunt release.
With clamp terminal on the left-hand switch side.		110 V – 130 V 50/60 Hz	**NZM1-XU110-130AC** 259440		1 off	
		208 V 240 V 50/60 Hz	**NZM1-XU208-240AC** 259442		1 off	
		380 V – 440 V 50/60 Hz	**NZM1-XU380-440AC** 259444		1 off	
		480 V – 525 V 50/60 Hz	**NZM1-XU480-525AC** 259446		1 off	
		600 V 50/60 Hz	**NZM1-XU600AC** 259448		1 off	
		12 V DC	**NZM1-XU12DC** 259450		1 off	
		24 V DC	**NZM1-XU24DC** 259452		1 off	
		110 V – 130 V DC	**NZM1-XU110-130DC** 259458		1 off	
		220 V – 250 V DC	**NZM1-XU220-250DC** 259460		1 off	
 	LZM1(-4)	24 V 50/60 Hz	**NZM1-XUL24AC** 259462		1 off	
With 3 m connection cable instead of screw termination.		110 V – 130 V 50/60 Hz	**NZM1-XUL110-130AC** 259468		1 off	
		208 V 240 V 50/60 Hz	**NZM1-XUL208-240AC** 259471		1 off	
		380 V – 440 V 50/60 Hz	**NZM1-XUL380-440AC** 259473		1 off	
		480 V – 525 V 50/60 Hz	**NZM1-XUL480-525AC** 259475		1 off	
		600 V 50/60 Hz	**NZM1-XUL600AC** 259477		1 off	
		12 V DC	**NZM1-XUL12DC** 259479		1 off	
		24 V DC	**NZM1-XUL24DC** 259481		1 off	
		110 V 130 V DC	**NZM1-XUL110-130DC** 259487		1 off	
		220 V – 250 V DC	**NZM1-XUL220-250DC** 259489		1 off	

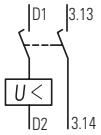
Undervoltage release with screw terminal LZM2/3..., LZM4

For use with	Rated control voltage U_s V	**Part no.** Article no. when ordered separately	**Price** see price list	Std. pack	**Notes**
Undervoltage releases					
Without auxiliary contact Non-delayed disconnection of LZM circuit-breakers when the control voltage sinks below 35 – 70% U_S. For use with Emergency-Stop devices in conjunction with Emergency-Stop button.					
 	LZM2(-4) LZM3(-4)	24 V 50/60 Hz	**NZM2/3-XU24AC** 259491	1 off	When the undervoltage release is de-energized, accidental contact with the main contacts of the switch during attempts to switch on, is safely prevented . Undervoltage release cannot be installed simultaneously with NZM...-XHIV... early-make auxiliary contact or NZM...-XA... shunt release.
		110 V – 130 V 50/60 Hz	**NZM2/3-XU110-130AC** 259497	1 off	
		208 V 240 V 50/60 Hz	**NZM2/3-XU208-240AC** 259499	1 off	
		380 V – 440 V 50/60 Hz	**NZM2/3-XU380-440AC** 259501	1 off	
		480 V – 525 V 50/60 Hz	**NZM2/3-XU480-525AC** 259503	1 off	
		600 V 50/60 Hz	**NZM2/3-XU600AC** 259505	1 off	
		12 V DC	**NZM2/3-XU12DC** 259507	1 off	
		24 V DC	**NZM2/3-XU24DC** 259509	1 off	
		110 V 130 V DC	**NZM2/3-XU110-130DC** 259515	1 off	
		220 V – 250 V DC	**NZM2/3-XU220-250DC** 259517	1 off	
 	LZM4(-4)	24 V 50/60 Hz	**NZM4-XU24AC** 266189	1 off	
		110 V – 130 V 50/60 Hz	**NZM4-XU110-130AC** 266192	1 off	
		208 V – 240 V 50/60 Hz	**NZM4-XU208-240AC** 266193	1 off	
		380 V – 440 V 50/60 Hz	**NZM4-XU380-440AC** 266194	1 off	
		480 V – 525 V 50/60 Hz	**NZM4-XU480-525AC** 266195	1 off	
		600 V 50/60 Hz	**NZM4-XU600AC** 266196	1 off	
		12 V DC	**NZM4-XU12DC** 266203	1 off	
		24 V DC	**NZM4-XU24DC** 266204	1 off	
		110 V – 130 V DC	**NZM4-XU110-130DC** 266207	1 off	
		220 V – 250 V DC	**NZM4-XU220-250DC** 266208	1 off	

Undervoltage release with screw terminal LZM1, LZM2/3

	For use with	Rated control voltage U_s V	**Part no.** Article no. when ordered separately	**Price** see price list	Std. pack	**Notes**
Undervoltage releases						
With two early-make auxiliary contacts For interlocking and load-shedding circuits, as well as for early-make of the undervoltage release in main-switch applications.						
 	With clamp terminal on the left-hand switch side.	LZM1(-4)	24 V 50/60 Hz	**NZM1-XUHIV24AC** 259531	1 off	When the undervoltage release is de-energized, accidental contact with the main contacts of the switch during attempts to switch on is safely prevented. Early-make of the auxiliary contacts with on and off switching (manual operation): approx. 20 ms. Undervoltage releases cannot be installed simultaneously with NZM...- XHIV... early-make auxiliary contact or NZM...-XA... shunt release.
			110 V – 130 V 50/60 Hz	**NZM1-XUHIV110-130AC** 259537	1 off	
			208 V – 240 V 50/60 Hz	**NZM1-XUHIV208-240AC** 259539	1 off	
			380 V – 440 V 50/60 Hz	**NZM1-XUHIV380-440AC** 259541	1 off	
			480 V – 525 V 50/60 Hz	**NZM1-XUHIV480-525AC** 259543	1 off	
			12 V DC	**NZM1-XUHIV12DC** 259545	1 off	
			24 V DC	**NZM1-XUHIV24DC** 259547	1 off	
			110 V – 130 V DC	**NZM1-XUHIV110-130DC** 259553	1 off	
			220 V – 250 V DC	**NZM1-XUHIV220-250DC** 259555	1 off	
 	With 3 m connection cable instead of screw termination.	LZM1(-4)	24 V 50/60 Hz	**NZM1-XUHIVL24AC** 259557	1 off	
			110 V – 130 V 50/60 Hz	**NZM1-XUHIVL110-130AC** 259563	1 off	
			208 V – 240 V 50/60 Hz	**NZM1-XUHIVL208-240AC** 259565	1 off	
			380 V – 440 V 50/60 Hz	**NZM1-XUHIVL380-440AC** 259567	1 off	
			480 V – 525 V 50/60 Hz	**NZM1-XUHIVL480-525AC** 259569	1 off	
			12 V DC	**NZM1-XUHIVL12DC** 259571	1 off	
			24 V DC	**NZM1-XUHIVL24DC** 259573	1 off	
			110 V – 130 V DC	**NZM1-XUHIVL110-130DC** 259579	1 off	
			220 V – 250 V DC	**NZM1-XUHIVL220-250DC** 259581	1 off	
 		LZM2(-4) LZM3(-4)	24 V 50/60 Hz	**NZM2/3-XUHIV24AC** 259583	1 off	When the undervoltage release is de-energized, accidental contact with the main contacts of the switch during attempts to switch on is safely prevented. Early-make of the auxiliary contacts with on and off switching (manual operation): approx. 20 ms. Cannot be used in conjunction with NZM...-XR... remote operator. Undervoltage releases cannot be installed simultaneously with NZM...- XHIV... early-make auxiliary contact or NZM...-XA... shunt release.
			110 V – 130 V 50/60 Hz	**NZM2/3-XUHIV110-130AC** 259589	1 off	
			208 V – 240 V 50/60 Hz	**NZM2/3-XUHIV208-240AC** 259591	1 off	
			380 V – 440 V 50/60 Hz	**NZM2/3-XUHIV380-440AC** 259594	1 off	
			480 V – 525 V 50/60 Hz	**NZM2/3-XUHIV480-525AC** 259598	1 off	
			12 V DC	**NZM2/3-XUHIV12DC** 259600	1 off	
			24 V DC	**NZM2/3-XUHIV24DC** 259602	1 off	
			110 V – 130 V DC	**NZM2/3-XUHIV110-130DC** 259608	1 off	
			220 V – 250 V DC	**NZM2/3-XUHIV220-250DC** 259610	1 off	

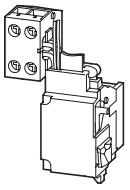
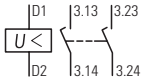
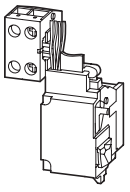
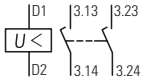
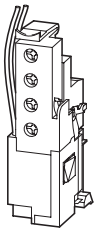
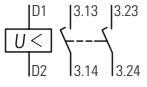
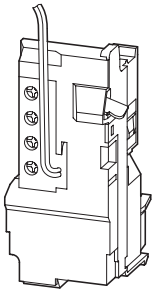
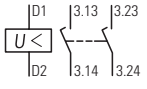




Undervoltage release with screw terminal LZM1, LZM2/3..., LZM4

For use with	Rated control voltage U_s V	**Part no.** Article no. when ordered separately	**Price** see price list	Std. pack	**Notes**
Undervoltage releases					
With two early-make auxiliary contacts					
For interlocking and load-shedding circuits, as well as for early-make of the undervoltage release in main-switch applications.					
LZM4(-4)	24 V 50/60 Hz	**NZM4-XUHIV24AC** 266217		1 off	When the undervoltage release is de-energized, accidental contact with the main switches of the switch during attempts to switch on is safely prevented. Early-make of the auxiliary contacts with switch on (manual operation): approx. 90 ms. Cannot be used in conjunction with NZM...-XR... remote operator. Undervoltage releases cannot be installed simultaneously with NZM...-XHIV... early-make au xiliary contact or NZM...-XA... shunt release.
	110 V – 130 V 50/60 Hz	**NZM4-XUHIV110-130AC** 266220		1 off	
	208 V – 240 V 50/60 Hz	**NZM4-XUHIV208-240AC** 266221		1 off	
	380 V – 440 V 50/60 Hz	**NZM4-XUHIV380-440AC** 266222		1 off	
	480 V – 525 V 50/60 Hz	**NZM4-XUHIV480-525AC** 266223		1 off	
	12 V DC	**NZM4-XUHIV12DC** 266231		1 off	
	24 V DC	**NZM4-XUHIV24DC** 266232		1 off	
	110 V – 130 V DC	**NZM4-XUHIV110-130DC** 266235		1 off	
	220 V – 250 V DC	**NZM4-XUHIV220-250DC** 266236		1 off	

Undervoltage release with screw terminal LZM1, LZM2/3..., LZM4

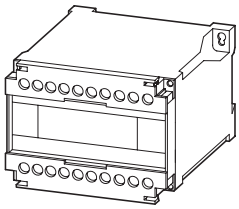
	For use with	Rated control voltage U_s V	**Part no.** Article no. when ordered separately	**Price** see price list	Std. pack
Undervoltage releases					
With two separate early-make auxiliary contacts					
 Coil connection wired to clamp terminal, auxiliary switch connections wired with 3 m loose connection cables					
	LZM1(-4)	24 V 50/60 Hz	**NZM1-XUHIV20KL24AC** 284388		1 off
		110 V – 130 V 50/60 Hz	**NZM1-XUHIV20KL110-130AC** 284389		1 off
		208 V – 240 V 50/60 Hz	**NZM1-XUHIV20KL208-240AC** 284400		1 off
		24 V DC	**NZM1-XUHIV20KL24DC** 284387		1 off
 Coil connection with 3 m loose connection cables, auxiliary switch connections wired to clamp terminal					
	LZM1(-4)	24 V 50/60 Hz	**NZM1-XUHIV20LK24AC** 284402		1 off
		110 V – 130 V 50/60 Hz	**NZM1-XUHIV20LK110-130AC** 284403		1 off
		208 V … 240 V 50/60 Hz	**NZM1-XUHIV20LK208-240AC** 284404		1 off
		24 V DC	**NZM1-XUHIV20LK24DC** 284401		1 off
 Coil connection with 3 m loose connection cables, auxiliary switch connections wired to clamp terminal					
	LZM2(-4) LZM3(-4)	24 V 50/60 Hz	**NZM2/3-XUHIV20LK24AC** 285291		1 off
		110 V – 130 V 50/60 Hz	**NZM2/3-XUHIV20LK110-130AC** 284407		1 off
		208 V – 240 V 50/60 Hz	**NZM2/3-XUHIV20LK208-240AC** 284408		1 off
		24 V DC	**NZM2/3-XUHIV20LK24DC** 284405		1 off
 Contacts 3.23 and 3.24 with separate 3 m connection cables.					
	LZM4(-4)	24 V 50/60 Hz	**NZM4-XUHIV2024AC** 266244		1 off
		110 V – 130 V 50/60 Hz	**NZM4-XUHIV20110-130AC** 266247		1 off
		208 V 240 V 50/60 Hz	**NZM4-XUHIV20208-240AC** 266248		1 off
		380 V – 440 V 50/60 Hz	**NZM4-XUHIV20380-440AC** 266249		1 off
		24 V DC	**NZM4-XUHIV2024DC** 266258		1 off

Notes

When the undervoltage release is de-energized, accidental contact with the main switches of the switch during attempts to switch on is safely prevented.
Early-make of the auxiliary contacts with on and off switching (manual operation): approx. 20 ms.
Cannot be used in conjunction with NZM...-XR... remote operator.
Undervoltage releases cannot be installed simultaneously with NZM...-XHIV... early-make auxiliary contact or NZM...-XA... shunt release.

Undervoltage releases, off-delayed LZM1, LZM2/3..., LZM4

For use with	Part no. Article no. when ordered separately	Price see price list	Std. pack	Notes



Undervoltage releases, off-delayed

Combination of separate delay unit and special tripping device.

Delay unit
Voltage dips of less than the setting between 0.06 – 16 s do not cause disconnection of the NZM circuit-breaker or N switch-disconnector.

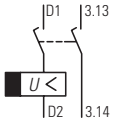
LZM1(-4), 2(-4), 3(-4), 4(-4) 50/60 Hz 220 V – 240 V 380 V – 440 V 480 V – 550 V DC/AC 24 V	**UVU-NZM** 260154	1 off	Adjustable delay time 70 ms – 4 s. With additional capacitor up to 16 s. A special tripping device is required. Cannot be installed simultaneously with NZM...-XHIV... or NZM...-XA... shunt release. Delay unit for separate installation (Fixing: top-hat rail or screws). For other operating voltages use control transformer.

Special tripping device
For combination with separate delay unit

Without auxiliary contacts

NZM1-X… with 3 m separate connection cables instead of screw terminal, NZM2, 3 , 4 with screw terminal

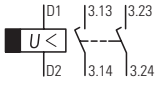
LZM1(-4)	**NZM1-XUVL** 271607	1 off	UVU-NZM delay unit is additionally required. Cannot be installed simultaneously with separate NZM...-XHIV early-make auxiliary contact or NZM...-XA... shunt release.
LZM2(-4) LZM3(-4)	**NZM2/3-XUV** 259527	1 off	
LZM4(-4)	**NZM4-XUV** 266588	1 off	



With 2 early-make auxiliary contacts

NZM1-X… with 3 m separate connection cables instead of screw terminal, NZM2, 3 , 4 with screw terminal

LZM1(-4)	**NZM1-XUVHIVL** 271608	1 off	Cannot be used in conjunction with NZM...-XR... remote operator. UVU-NZM delay unit is additionally required. Cannot be installed simultaneously with separate NZM...-XHIV early-make auxiliary contact or NZM...-XA... shunt release. LZM1, 2, 3: Early-make of the auxiliary contacts with on and off switching (manual operation): approx. 20 ms. LZM4: Early-make of the auxiliary contacts with switch on (manual operation): approx. 90 ms.
LZM2(-4) LZM3(-4)	**NZM2/3-XUVHIV** 259684	1 off	
LZM4(-4)	**NZM4-XUVHIV** 266596	1 off	

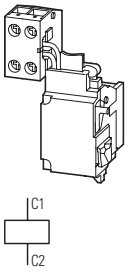
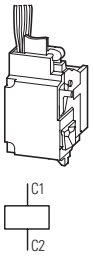
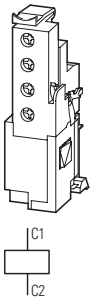
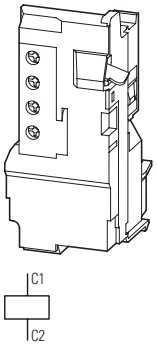


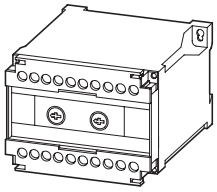
With 2 separately operating early-make auxiliary contacts

NZM1-X… with 3 m separate connection cables instead of screw terminal, NZM2(3)(4)-X… with screw terminal, contact 3.23 and 3.24 with 3 m separate connection cables.

LZM1(-4)	**NZM1-XUVHIV20L** 271609	1 off	Cannot be used in conjunction with NZM...-XR... remote operator. UVU-NZM delay unit is additionally required. Cannot be installed simultaneously with separate NZM...-XHIV early-make auxiliary contact or NZM...-XA... shunt release. LZM1, 2, 3: Early-make of the auxiliary contacts with on and off switching (manual operation): approx. 20 ms. LZM4: Early-make of the auxiliary contacts with switch on (manual operation): approx. 90 ms.
LZM2(-4) LZM3(-4)	**NZM2/3-XUVHIV20** 259688	1 off	
LZM4(-4)	**NZM4-XUVHIV20** 266604	1 off	

Shunt releases with screw terminal LZM1, LZM2/3, LZM4

	For use with	Rated control voltage U_s V	**Part no.** Article no. when ordered separately	**Price** see price list	Std. pack	**Notes**
Shunt releases						
Without auxiliary contact Switches are tripped by a voltage pulse or by the application of uninterrupted voltage.						
 With clamp terminal on the left-hand switch side.	LZM1(-4)	12 V AC/DC	**NZM1-XA12AC/DC** 259706		1 off	When the undervoltage release is de-energized, accidental contact with the main contacts of the switch during attempts to switch on, is safely prevented. Shunt release cannot be installed simultaneously with NZM...-XHIV... early-make auxiliary contact or NZM...-XU... undervoltage release.
		24 V AC/DC	**NZM1-XA24AC/DC** 259708		1 off	
		110 V – 130 V AC/DC	**NZM1-XA110-130AC/DC** 259724		1 off	
		208 V – 250 V AC/DC	**NZM1-XA208-250AC/DC** 259726		1 off	
		380 V – 440 V AC/DC	**NZM1-XA380-440AC/DC** 259728		1 off	
 With 3 m connection cable instead of screw termination.	LZM1(-4)	12 V AC/DC	**NZM1-XAL12AC/DC** 259734		1 off	
		24 V AC/DC	**NZM1-XAL24AC/DC** 259736		1 off	
		110 V – 130 V AC/DC	**NZM1-XAL110-130AC/DC** 259742		1 off	
		208 V – 250 V AC/DC	**NZM1-XAL208-250AC/DC** 259744		1 off	
		380 V – 440 V AC/DC	**NZM1-XAL380-440AC/DC** 259746		1 off	
Without auxiliary contact Switches are tripped by a voltage pulse or by the application of uninterrupted voltage.						
	LZM2(-4) LZM3(-4)	12 V AC/DC	**NZM2/3-XA12AC/DC** 259752		1 off	When the undervoltage release is de-energized, accidental contact with the main contacts of the switch during attempts to switch on, is safely prevented. Shunt release cannot be installed simultaneously with NZM...-XHIV... early-make auxiliary contact or NZM...-XU... undervoltage release.
		24 V AC/DC	**NZM2/3-XA24AC/DC** 259754		1 off	
		110 V – 130 V AC/DC	**NZM2/3-XA110-130AC/DC** 259760		1 off	
		208 V – 250 V AC/DC	**NZM2/3-XA208-250AC/DC** 259763		1 off	
		380 V – 440 V AC/DC	**NZM2/3-XA380-440AC/DC** 259766		1 off	
	LZM4(-4)	12 V AC/DC	**NZM4-XA12AC/DC** 266446		1 off	
		24 V AC/DC	**NZM4-XA24AC/DC** 266447		1 off	
		110 V – 130 V AC/DC	**NZM4-XA110-130AC/DC** 266450		1 off	
		208 V – 250 V AC/DC	**NZM4-XA208-250AC/DC** 266451		1 off	
		380 V – 440 V AC/DC	**NZM4-XA380-440AC/DC** 266452		1 off	

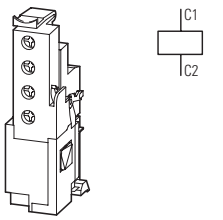


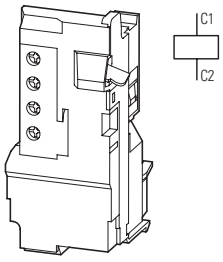
Shunt releases with screw terminal LZM...-X...

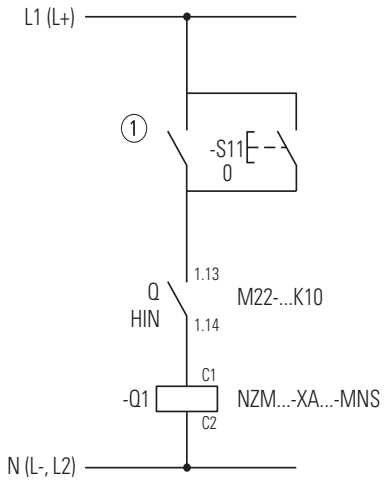
For use with	Part no. Article no. when ordered separately	Price see price list	Std. pack	Notes
Shunt releases				
Capacitor unit 230 V 50/60 Hz in conjunction with NZM...-XA2082-50AC/DC shunt release Enclosure: degree of protection IP20				
LZM1(-4) LZM2(-4) LZM3(-4) LZM4(-4)	**NZM-XCM** 229413		1 off	Enables the safe use of circuit-breakers as mesh network circuit-breakers in the range from 0 … 110 % U_n with constant switch-off time of 40 ms. If the mains voltage is absent, the installed capacitor supplies power for actuating the shunt release for at least 12 hours. The configuration of the capacitor unit is undertaken independently of the circuit-breaker. Connect NZM-XCM to the power feed side. Design note: Connect a standard auxiliary contact as N/O in series with the shunt release! Standard auxiliary contact not included as standard.

Shunt releases with screw terminal LZM...-X...

For use with	Rated control voltage U_s V	Part no. Article no. when ordered separately	Price see price list	Std. pack	Notes
Shunt releases					
Without auxiliary contacts For mesh-network circuit-breakers For intermittent operation Maximum on time = 1 s Operating range 10 – 110 % U_s					
LZM3(-4)	230 V AC	**NZM3-XA-230AC-MNS** 274097		1 off	Cannot be installed simultaneously with NZM...-XHIV... early-make auxiliary contact or NZM...-XU... undervoltage release. Intermittent operation guaranteed by series connection of an M22-(C)K10 make contact. The maximum operating time of the shunt release for mesh network circuit-breaker is 1 s.
LZM4(-4)	230 V AC	**NZM4-XA-230AC-MNS** 274138		1 off	

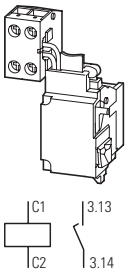
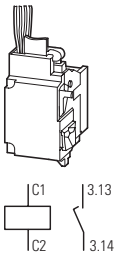
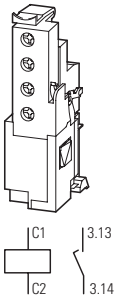
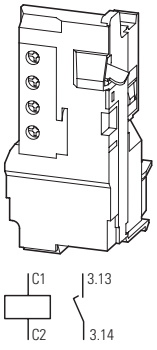




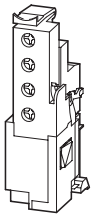
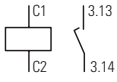
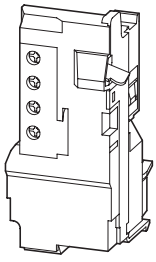
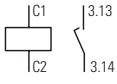


①	Reverse-power relay contact
-S11	Remote off
Q	Standard auxiliary contact
-Q1	Shunt release

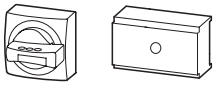
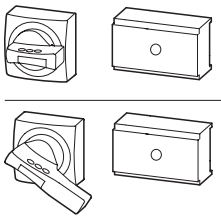
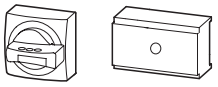
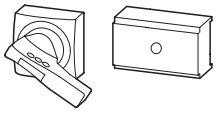
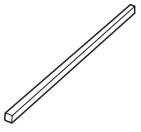
Shunt releases with screw terminal LZM1, LZM2/3, LZM4

	For use with	Rated control voltage U_s V	Part no. Article no. when ordered separately	Price see price list	Std. pack	Notes
Shunt releases						
With early-make auxiliary contact Not in combination with remote operator.						
 With clamp terminal on the left-hand switch side.	LZM1(-4)	12 V AC/DC	**NZM1-XAHIV12AC/DC** 259772		1 off	When the shunt release is energized, accidental contact with the main contacts of the switch during attempts to switch on is safely prevented. Early-make of the auxiliary contact with on and off switching (manual operation): approx. 20 ms. Shunt release cannot be installed simultaneously with NZM...- XHIV.. early-make auxiliary contact or NZM...-XU... undervoltage release.
		24 V AC/DC	**NZM1-XAHIV24AC/DC** 259774		1 off	
		110 V – 130 V AC/DC	**NZM1-XAHIV110-130AC/DC** 259780		1 off	
		208 V – 250 V AC/DC	**NZM1-XAHIV208-250AC/DC** 259782		1 off	
		380 V – 440 V AC/DC	**NZM1-XAHIV380-440AC/DC** 259784		1 off	
 With 3 m connection cable instead of screw termination.	LZM1(-4)	12 V AC/DC	**NZM1-XAHIVL12AC/DC** 259790		1 off	
		24 V AC/DC	**NZM1-XAHIVL24AC/DC** 259792		1 off	
		110 V – 130 V AC/DC	**NZM1-XAHIVL110-130AC/DC** 259798		1 off	
		208 V – 250 V AC/DC	**NZM1-XAHIVL208-250AC/DC** 259800		1 off	
		380 V – 440 V AC/DC	**NZM1-XAHIVL380-440AC/DC** 259802		1 off	
With early-make auxiliary contact						
	LZM2(-4) LZM3(-4)	12 V AC/DC	**NZM2/3-XAHIV12AC/DC** 259808		1 off	When the shunt release is energized, accidental contact with the main contacts of the switch during attempts to switch on is safely prevented. Early-make of the auxiliary contact with on and off switching (manual operation): approx. 20 ms. Cannot be used in conjunction with NZM...-XR... remote operator. Shunt release cannot be installed simultaneously with NZM...- XHIV.. early-make auxiliary contact or NZM...-XU... undervoltage release.
		24 V AC/DC	**NZM2/3-XAHIV24AC/DC** 259810		1 off	
		110 V – 130 V AC/DC	**NZM2/3-XAHIV110-130AC/DC** 259816		1 off	
		208 V – 250 V AC/DC	**NZM2/3-XAHIV208-250AC/DC** 259818		1 off	
		380 V – 440 V AC/DC	**NZM2/3-XAHIV380-440AC/DC** 259820		1 off	
	LZM4(-4)	12 V AC/DC	**NZM4-XAHIV12AC/DC** 266470		1 off	
		24 V AC/DC	**NZM4-XAHIV24AC/DC** 266471		1 off	
		110 V – 130 V AC/DC	**NZM4-XAHIV110-130AC/DC** 266474		1 off	
		208 V – 250 V AC/DC	**NZM4-XAHIV208-250AC/DC** 266475		1 off	
		380 V – 440 V AC/DC	**NZM4-XAHIV380-440AC/DC** 266476		1 off	

Shunt releases with screw terminal NZM...-XAHIV-...

	For use with	Rated control voltage U_s V	**Part no.** Article no. when ordered separately	**Price** see price list	Std. pack	**Notes**
Shunt releases						
For mesh-network circuit-breakers For intermittent operation Maximum on time = 1 s Operating range 10 – 110 % U_s						
 	With early-make auxiliary contact	LZM3(-4)	230 V AC	**NZM3-XAHIV-230AC-MNS** 274141	1 off	Cannot be installed simultaneously with NZM...-XHIV... early-make auxiliary contact or NZM...-XU... undervoltage release. Cannot be used in conjunction with NZM...-XR... remote operator. Intermittent operation guaranteed by series connection of a N/O contact M22-(C)K10 (standard auxiliary contact). The maximum operating time of the shunt release for mesh network circuit-breaker is 1 s. LZM3: Early-make of the auxiliary contact with on and off switching (manual operation): approx.20ms. LZM4: Early-make of the auxiliary contact with switch on (manual operation): approx.90ms.
 	With early-make auxiliary contact	LZM3(-4)	230 V AC	**NZM4-XAHIV-230AC-MNS** 274143	1 off	

Door coupling rotary handles LZM1, LZM2, LZM3, LZM4

	For use with	Part no. Article no.	Price see price list	Std. pack	Notes
Door coupling rotary handle					
Complete including rotary drive and coupling parts An additional extension shaft is necessary with the NZM...-XT(V)D(V)(R)(-60) types. Degree of protection IP66					
Standard, black/grey					
 Lockable on the 0 position on the handle using up to 3 padlocks. With door interlock	LZM1(-4)	**NZM1-XTVD** 260166		1 off	Door interlock • Not defeated in the locked OFF and ON positions • Can be modified such that it can be defeated from the outside using a screwdriver, when it is in the unlocked ON position. • Door can be opened in OFF NZM...-XTVD(V) • External warning plate/ designation label can be clipped on
	LZM2(-4)	**NZM2-XTVD** 260168		1 off	
	LZM3(-4)	**NZM3-XTVD** 260170		1 off	
	LZM4(-4)	**NZM4-XTVD** 266614		1 off	
 Lockable on the handle on the switch using up to 3 padlocks. Can be locked in 0 position on the handle, with adequate modification also in I position. With door interlock. Lockable in the 0 position	LZM1(-4)	**NZM1-XTVDV** 260172		1 off	
	LZM2(-4)	**NZM2-XTVDV** 260174		1 off	
	LZM3(-4)	**NZM3-XTVDV** 260176		1 off	
	LZM4(-4)	**NZM4-XTVDV** 266616		1 off	
Red-yellow for Emergency-Stop					
 Lockable on the handle on the switch using up to 3 padlocks. Lockable in 0 position on handle. With door interlock. Lockable in the 0 position	LZM1(-4)	**NZM1-XTVDVR** 260178		1 off	Door interlock • Not defeatable in the locked OFF position. • Can be modified such that it can be defeated from the outside using a screwdriver, when it is in the unlocked ON position. • Door can be opened in OFF NZM...-XTVDVR • External warning plate/ designation label can be clipped on
	LZM2(-4)	**NZM2-XTVDVR** 260180		1 off	
	LZM3(-4)	**NZM3-XTVDVR** 260182		1 off	
	LZM4(-4)	**NZM4-XTVDVR** 266618		1 off	
Extension shaft					
 Max. mounting depth: 400 mm	LZM1(-4) LZM2(-4)	**NZM1/2-XV4** 261232		1 off	Can be cut to required length
	LZM3(-4) LZM4(-4)	**NZM3/4-XV4** 261234		1 off	
Max. mounting depth: 600 mm	LZM1(-4) LZM2(-4)	**NZM1/2-XV6** 260191		1 off	
	LZM3(-4) LZM4(-4)	**NZM3/4-XV6** 260193		1 off	

Notes Circuit-breaker can also be installed in a lying position 90 ° left/right, with the handle still in the same position.

For a max. shaft length of 60 mm **Part no.** Article no.	**Price** see price list	Std. pack	**Notes**	Extremely narrow fittings **Part no.** Article no.	**Price** see price list	Std. pack	**Notes**
NZM1-XTVD-60 271504		1 off	Door interlock • Not defeated in the locked OFF and ON positions • Can be modified such that it can be defeated from the outside using a screwdriver, when it is in the unlocked ON position. • Door can be opened in OFF NZM...-XTVD(V)-60 • For maximum shaft length 60 mm • Without shaft support • Cannot be combined with NZM...-XDZ additional handle • External warning plate/ designation label can be clipped on	**NZM1-XTVD-0** 279392		1 off	Door interlock • Not defeated in the locked OFF and ON positions • Can be modified such that it can be defeated from the outside using a screwdriver, when it is in the unlocked ON position. • Door can be opened in OFF NZM...-XTVD(V)-0 • For extremely narrow fittings • With special short extension shaft • Cannot be combined with NZM...-XDZ addi tional handle • External warning plate/ designation label can be clipped on
NZM2-XTVD-60 271505		1 off		**NZM2-XTVD-0** 279393		1 off	
NZM3-XTVD-60 271506		1 off		**NZM3-XTVD-0** 279394		1 off	
NZM4-XTVD-60 271507		1 off		**NZM4-XTVD-0** 279395		1 off	
NZM1-XTVDV-60 271508		1 off		**NZM1-XTVDV-0** 279396		1 off	
NZM2-XTVDV-60 271509		1 off		**NZM2-XTVDV-0** 279397		1 off	
NZM3-XTVDV-60 271510		1 off		**NZM3-XTVDV-0** 279398		1 off	
NZM4-XTVDV-60 271511		1 off		**NZM4-XTVDV-0** 279399		1 off	
NZM1-XTVDVR-60 271512		1 off	Door interlock • Not defeatable in the locked OFF position. • Can be modified such that it can be defeated from the outside using a screwdriver, when it is in the unlocked ON position. • Door can be opened in OFF NZM...-XTVDVR-60 • For maximum shaft length 60 mm • Without shaft support • Cannot be combined with NZM...-XDZ additional handle • External warning plate/ designation label can be clipped on	**NZM1-XTVDVR-0** 279400		1 off	Door interlock • Not defeatable in the locked OFF position. • Can be modified such that it can be defeated from the outside using a screwdriver, when it is in the unlocked ON position. • Door can be opened in OFF NZM...-XTVDVR-0 • For extremely narrow fittings • With special short extension shaft • Cannot be combined with NZM...-XDZ addi tional handle • External warning plate/ designation label can be clipped on
NZM2-XTVDVR-60 271513		1 off		**NZM2-XTVDVR-0** 279401		1 off	
NZM3-XTVDVR-60 271514		1 off		**NZM3-XTVDVR-0** 279402		1 off	
NZM4-XTVDVR-60 271515		1 off		**NZM4-XTVDVR-0** 279403		1 off	

Rotary handles NZM…-XDV…

		For use with	**Part no.** Article no. when ordered separately	**Price** see price list	Std. pack	**Notes**
	Rotary handle on circuit-breaker					
	Complete with rotary drive					
	Standard, black/grey					
	Lockable on the 0 position on the switch using up to 3 padlocks.	LZM1(-4)	**NZM1-XDV** 260125		1 off	NZM1(2)(3)-X…: Can also be combined with insulating surround. MODAN handle position detection by wire release can be retrofitted.
		LZM2(-4)	**NZM2-XDV** 260127		1 off	
		LZM3(-4)	**NZM3-XDV** 260129		1 off	
		LZM4(-4)	**NZM4-XDV** 266608		1 off	
	Lockable on the 0 position on the handle using up to 3 padlocks.	LZM1(-4)	**NZM1-XDVG** 285247		1 off	Can also be combined with insulating surround.
		LZM2(-4)	**NZM2-XDVG** 285248		1 off	
	Red-yellow for Emergency-Stop					
	Lockable on the 0 position on the switch using up to 3 padlocks.	LZM1(-4)	**NZM1-XDVR** 260135		1 off	NZM1(2)(3)-X…: Can also be combined with insulating surround. MODAN handle position detection by wire release can be retrofitted.
		LZM2(-4)	**NZM2-XDVR** 260137		1 off	
		LZM3(-4)	**NZM3-XDVR** 260140		1 off	
		LZM4(-4)	**NZM4-XDVR** 266610		1 off	
	Lockable on the 0 position on the handle using up to 3 padlocks.	LZM1(-4)	**NZM1-XDVGR** 285249		1 off	Can also be combined with insulating surround.
		LZM2(-4)	**NZM2-XDVGR** 285280		1 off	

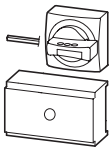
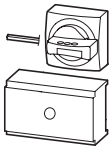
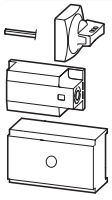
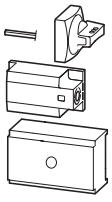
Notes Circuit-breaker can also be installed in a lying position 90 ° left/right, stalled in a lying position 90 ° left/right,

Rotary handles with door interlock NZM...-XDTV...

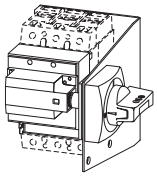
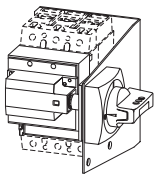
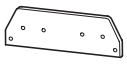
	For use with	Part no. Article no. when ordered separately	Price see price list	Std. pack	Notes
Rotary handle on switch with door interlock					
Complete with rotary drive and insulating surround					
Standard, black/grey					
 Lockable on the 0 position on the handle using up to 3 padlocks, can also be modified for the I position. Also available with door interlock e.g. for MCC service distribution.	LZM1(-4)	**NZM1-XDTV** 260131		1 off	Door interlock • In the ON position, can be defeated from the outside using a 1 mm pin • Not defeated in the locked OFF and ON positions • Door can be opened in OFF • Can only be switched ON when the door is closed
	LZM2(-4)	**NZM2-XDTV** 260133		1 off	
Red-yellow for Emergency-Stop					
 Lockable on the 0 position on the handle using up to 3 padlocks. Also available with door interlock e.g. for MCC service distribution	LZM1(-4)	**NZM1-XDTVR** 260142		1 off	
	LZM2(-4)	**NZM2-XDTVR** 260144		1 off	

Notes Circuit-breaker can also be installed in a lying position 90 ° left/right, with the handle still in the same position.

Main switch assembly kit NZM...-XHB..., NZM...-XS...

	Type	For use with	Part no. Article no. when ordered separately	Price see price list	Std. pack
Main switch assembly kit					
Equipment supplied: • Rotary door-coupling handle • NZM...-XV4 extension shaft • External warning plate/designation label in German/English • Black and yellow flash For enhanced protection against direct contact on the incomer side, IP2X protection against contact with a finger can be ordered → 23 Other external warning plates/designation labels can be clipped on.					
	With black door coupling rotary handle				
Lockable on the 0 position on the handle using up to 3 padlocks, can also be modified for the I position. With door interlock.		LZM1(-4)	**NZM1-XHB** 266626		1 off
		LZM2(-4)	**NZM2-XHB** 266627		1 off
		LZM3(-4)	**NZM3-XHB** 266628		1 off
		LZM4(-4)	**NZM4-XHB** 271779		1 off
	With red door coupling rotary handle for using switch as Emergency-Stop device according to IEC/EN 602041				
Lockable on the 0 position on the handle using up to 3 padlocks. Lockable door as additional feature, locking facility on circuit-breaker in 0 position.		LZM1(-4)	**NZM1-XHBR** 266632		1 off
		LZM2(-4)	**NZM2-XHBR** 266633		1 off
		LZM3(-4)	**NZM3-XHBR** 266634		1 off
		LZM4(-4)	**NZM4-XHBR** 271842		1 off
Main switch assembly kit for side panel mounting **Actuation of the switch on the control panel side wall** **Switch mounting on mounting plate** Equipment supplied: • Door coupling rotary handle • NZM...-XV4 extension shaft • External warning plate/designation label in German/English • Black and yellow flash For enhanced protection against direct contact on the incomer side, IP2X protection against contact with a finger can be ordered → 23 Other external warning plates/designation labels can be clipped on.					
	Standard, black/grey				
Lockable on the 0 position on the handle using up to 3 padlocks, can also be modified for the I position.	For operation on the left	LZM1(-4)	**NZM1-XS-L** 266641		1 off
		LZM2(-4)	**NZM2-XS-L** 266642		1 off
		LZM3(-4)	**NZM3-XS-L** 266643		1 off
		LZM4(-4)	**NZM4-XS-L** 289806		1 off
	For operation on the right	LZM1(-4)	**NZM1-XS-R** 266644		1 off
		LZM2(-4)	**NZM2-XS-R** 266645		1 off
		LZM3(-4)	**NZM3-XS-R** 266646		1 off
		LZM4(-4)	**NZM4-XS-R** 289807		1 off
	Red-yellow for Emergency-Stop				
Lockable on the 0 position on the handle using up to 3 padlocks.	For operation on the left	LZM1(-4)	**NZM1-XSR-L** 266653		1 off
		LZM2(-4)	**NZM2-XSR-L** 266654		1 off
		LZM3(-4)	**NZM3-XSR-L** 266655		1 off
		LZM4(-4)	**NZM4-XSR-L** 289808		1 off
	For operation on the right	LZM1(-4)	**NZM1-XSR-R** 266656		1 off
		LZM2(-4)	**NZM2-XSR-R** 266657		1 off
		LZM3(-4)	**NZM3-XSR-R** 266658		1 off
		LZM4(-4)	**NZM4-XSR-R** 289809		1 off

Main switch assembly kit NZM...XS(R)M...

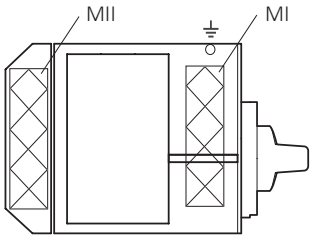
	Type	For use with	Part no. Article no. when ordered separately	Price see price list	Std. pack
Main switch assembly kit for side panel mounting with mounting bracket					
For direct mounting of circuit-breaker and handle in the side wall of the control cabinet Equipment supplied: • Door coupling rotary handle • Mounting bracket • Special short extension shaft • External warning plate/designation label in German/English • Black and yellow flash For enhanced protection against direct contact on the incomer side, IP2X protection against contact with a finger can be ordered → 23 Other external warning plates/designation labels can also be clipped on.					
 Standard, black/grey					
Can be locked in 0 position, with adequate modification also in I position. Narrowest minimum clearance between enclosure side plates of control panel and circuit-breaker is defined by mounting bracket. Extensions cannot be used.	For operation on the left	LZM1(-4)	**NZM1-XSM-L** 266663		1 off
	For operation on the left	LZM2(-4)	**NZM2-XSM-L** 266664		1 off
	For operation on the right	LZM1(-4)	**NZM1-XSM-R** 266665		1 off
	For operation on the right	LZM2(-4)	**NZM2-XSM-R** 266666		1 off
 Red-yellow for Emergency-Stop					
Lockable in 0 position on handle. Narrowest minimum clearance between enclosure side plates of control panel and circuit-breaker is defined by mounting bracket. Extensions cannot be used.	For operation on the left	LZM1(-4)	**NZM1-XSRM-L** 266671		1 off
	For operation on the left	LZM2(-4)	**NZM2-XSRM-L** 266672		1 off
	For operation on the right	LZM1(-4)	**NZM1-XSRM-R** 266673		1 off
	For operation on the right	LZM2(-4)	**NZM2-XSRM-R** 266674		1 off
 **Add-on plate**					
For fitting to the mounting bracket when using N conductor or PE conductor terminals K25, K50, K95 or K150.					
		LZM1(-4) LZM2(-4)	**NZM1/2-XZB** 266676		1 off

Additional terminal arrangement for side wall operator with mounting bracket
NZM1-XS(R)M-..., NZM2-XS(R)M-...
Additional terminals K25, K50, K95, K150 → 66

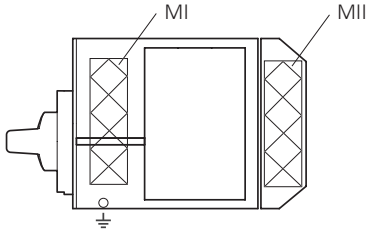
Actuation:

3 pole

For operation on the right

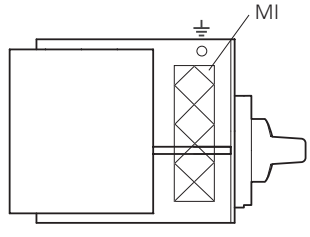


For operation on the left

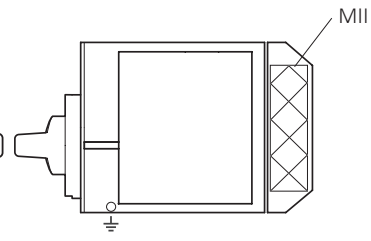


4 pole

For operation on the right



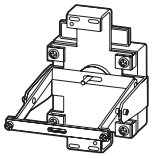
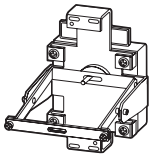
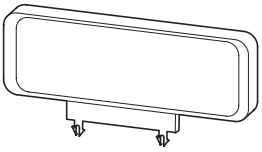
For operation on the left



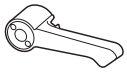
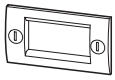
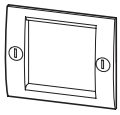
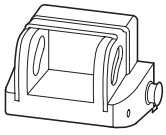
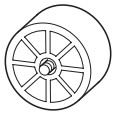
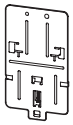
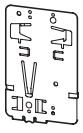
Mounting areas		MI				MII	
Variation options		V1	V2	V3	V4	V1	V2
Maximum number of additional terminals	K25	2 ×	–	–	–	–	–
	K50	–	2 ×	–	–	–	–
	K95	–	–	1 ×	–	1 ×	–
	K150	–	–	–	1 ×	–	1 ×

Example: In mounting area MI, variation option 1 allows the K25 additional terminal to be mounted twice.

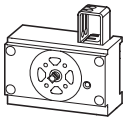
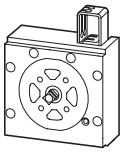
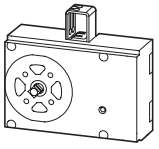
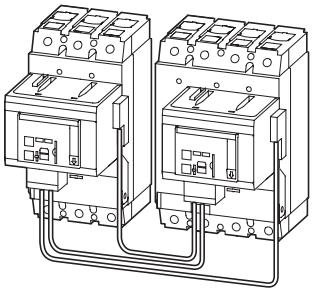
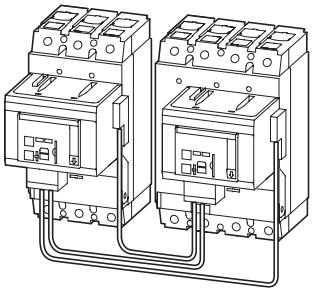
Accessories NZM...-XRAV..., ZFS..., BPF-...

	For use with	Part no. Article no. when ordered separately	Price see price list	Std. pack	Notes
Rear drive For direct rear connection of the switch to the side of the control panel or control panel door. Switch actuation on rear through side plate or control panel door. For switch with toggle lever. For enhanced protection against direct contact on the incomer side, IP2X protection against contact with a finger can be ordered → 21 Degree of protection IP66, UL/CSA Type 4X					
 Standard, black/grey					
Lockable on the 0 position on the handle using up to 3 padlocks.	LZM1	**NZM1-XRAV** 107245		1 off	External warning plate can be clipped on
	LZM2	**NZM2-XRAV** 107247		1 off	
 Red-yellow for Emergency-Stop					
Lockable on the 0 position on the handle using up to 3 padlocks.	LZM1	**NZM1-XRAVR** 107249		1 off	
	LZM2	**NZM2-XRAVR** 107261		1 off	
External warning plate/designtion label 					
German/English	LZM1(-4) LZM2(-4) LZM3(-4) LZM4(-4)	**ZFS61/62-NZM7** 272525		1 off	A bilingual external warning plate/ designation label in German/English is already included in the main switch assembly kit.
German		**ZFS61-NZM7** 051089		1 off	
English		**ZFS62-NZM7** 065957		1 off	
French		**ZFS63-NZM7** 065958		1 off	
Blank (for engraving or printing)		**ZFS60-NZM7** 065896		1 off	
Further languages		**ZFS*-NZM7** 999978		1 off	External warning plates are available in the following languages: 64 Bulgarian, 65 Danish, 66 Finnish, 67 Dutch, 68 Italian, 69 Greek, 70 Norwegian, 71 Polish, 72 Portuguese, 73 Romanian, 74 Russian, 75 Swedish, 76 Serbo-Croatian, 77 Spanish, 78 Czech, 79 Turkish, 80 Hungarian, 81 Afrikaans To obtain the order number, insert the language code number into the type reference required. Ordering example External warning plate in Finnish: ZFS66 -NZM7
Lightning symbol Including terminal marking for main switch					
Small  	LZM1(-4) LZM2(-4)	**BPF-NZM7** 217294		10 off	Included as standard in main switch assembly kit
Large  	LZM3(-4) LZM4(-4)	**BPF-NZM10** 231363		10 off	

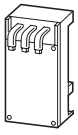
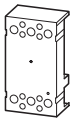
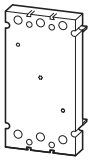
Accessories NZM...-XDZ, NZM...-XBR, NZM...-X...

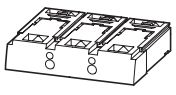
	For use with	Part no. Article no. when ordered separately	Price see price list	Std. pack	Notes
	Add-on handle				
	Enables switching when the control panel door is open				
	LZM1(-4) LZM2(-4)	**NZM1/2-XDZ** 266621		1 off	Push-fits on to the extension shaft 100 mm free extension shaft required. Cannot be combined with NZM...-XT...-60 door coupling rotary handles as well as NZM...-XT...-0.
	LZM3(-4) LZM4(-4)	**NZM3/4-XDZ** 266622		1 off	
	Insulating surrounds				
	For toggle lever, rotary handle with rotary drive and remote operator. Degree of protection IP40				
	LZM1(-4)	**NZM1-XBR** 260195		1 off	For oblong cut-out on doors and enclosures with material thicknesses of 1.5 – 5 mm. External warning plat e/designation label can be clipped on NZM4-XBR cannot be combined with rotary handle with rotary drive.
	LZM2(-4)	**NZM2-XBR** 260197		1 off	
	LZM3(-4)	**NZM3-XBR** 284645		1 off	
	LZM4(-4)	**NZM4-XBR** 284646		1 off	
	**Toggle lever locking device**				
	Off position lockable using up to 3 padlocks (hasp thickness 4 – 8 mm)				
	LZM1(-4)	**NZM1-XKAV** 260199		1 off	Cannot be combined with insulating surround.
	LZM2(-4) LZM3(-4)	**NZM2/3-XKAV** 260201		1 off	
	Spacers				
	Enables fast and low-priced adjustment of differing frame sizes with/ without rotary handle to the same front depth				
	LZM1(-4) LZM2(-4)	**NZM1/2-XAB** 260203		1 set	Grid depth 17.5 mm, M4 thread Type contains 4 off spacer Maximum component capacity: LZM1: 4 units per fixing screw, LZM2: 2 units per fixing screw 2 (LZM1) or 4 (LZM2) fixing screws contained per circuit-breaker
	LZM3(-4) LZM4(-4)	**NZM3-XAB** 260211		1 set	Grid depth 17.5 mm, M5 thread One set contains 4 spacers LZM3, LZM4: 1 off per fixing screw 4 fixing screws per switch included
	Clip plate				
	Enables snap-fit of the circuit-breaker to a DIN rail				
	LZM1(-4)	**NZM1-XC35** 260213		1 off	For top-hat rail 35 mm
	LZM2	**NZM2-XC75** 260215		1 off	For top-hat rail 75 mm Not suitable for circuit-breakers with remote operator.

Mechanical interlock NZM...XMV(R)(L), NZM-XBZ...

For use with	Part no. Article no. when ordered separately	Price see price list	Std. pack	Notes
Mechanical interlocking of (door coupling) rotary handles				
 LZM1(-4)	**NZM1-XMV** 281581		1 off	Rotary handles on switches or door coupling rotary handles are additionally required. Cannot be combined with paralleling mechanisms, side wall operators and remote operator as well as NZM4-XBR insulating surrounds. In order to establish a mechanical interlock at least 2 interlock modules are required. Possible combinations and interlock variants → engineering Order Bowden cable separately
 LZM2(-4)	**NZM2-XMV** 281582		1 off	
 LZM3(-4)	**NZM3-XMV** 281583		1 off	
LZM4(-4)	**NZM4-XMV** 281584		1 off	
Bowden cables				
 For mechanical interlocking of (door coupling) rotary handles				
LZM1(-4) LZM2(-4) LZM3(-4) LZM4(-4)	**NZM-XBZ225** 281585		1 off	
	NZM-XBZ600 281586		1 off	
	NZM-XBZ1000 281587		1 off	
Mechanical interlock for remote operator				
 For 2 switches of the same or next frame size with each other. Mounting beside one another.				
LZM2(-4) +LZM2(-4)	**NZM2-XMVR** 104543		1 off	Type contains parts for both switches. Remote operator also required. Maximum switching distance → engineering Cannot be combined with rotary handles, door coupling rotary handles and early-make auxiliary contacts.
LZM2(-4) +LZM3(-4)	**NZM2/3-XMVR** 104544		1 off	
LZM3(-4) +LZM3(-4)	**NZM3-XMVR** 104545		1 off	
LZM3(-4) +LZM4(-4)	**NZM3/4-XMVR** 104546		1 off	
LZM4(-4) +LZM4(-4)	**NZM4-XMVR** 104547		1 off	
 For 2 switches of the same or different type with opposed operation. Extra long Bowden cable for mounting one above the other or in adjacent enclosures.				
LZM2(-4) +LZM2(-4)	**NZM2-XMVRL** 104548		1 off	Type contains parts for both switches. Remote operator also required. Maximum switching distance → engineering Cannot be combined with rotary handles, door coupling rotary handles and early-make auxiliary contacts.
LZM2(-4) +LZM3(-4)	**NZM2/3-XMVRL** 104549		1 off	
LZM3(-4) +LZM3(-4)	**NZM3-XMVRL** 104550		1 off	
LZM3(-4) +LZM4(-4)	**NZM3/4-XMVRL** 104551		1 off	
LZM4(-4) +LZM4(-4)	**NZM4-XMVRL** 104552		1 off	

Multi-function device adapter NZM...-XAD...

For use with	Rated current I_e A	**Part no.** Article no. when ordered separately	**Price** see price list	Std. pack	**Notes**
Component adapter for circuit-breakers and switch-disconnectors for 60 mm busbar system					
For installation on flat copper busbars 12 … 30 x 5 … 10, double T and triple T profile Rated operational voltage U_e: 690 V • Halogen free • Temperature resistant to 120 °C • Self-extinguishing to UL 94 • Approved for feeder branch circuits to UL508A up to 600 V • 3 pole					
 LZM1	160	**NZM1-XAD160** 104554		1 off	For breakers with box terminal as standard connection Connection to system at top using the supplied connection cable In conjunction with IP2X protection against contact with a finger Enhancement of the protection against direct contact on the switch outgoer side possible
 LZM2	250	**NZM2-XAD250** 104555		1 off	Connection to the system possible at top or bottom via connection on rear (+)NZM2-XKR4… Mounting using clamp and screw fixing.
 LZM3	550	**NZM3-XAD550** 104556		1 off	Connection to the system possible at top via connection on rear (+)NZM3-XK13… Mounting using clamp and screw fixing.



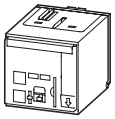
Multi-function device adapter NZM...-XKR...

For use with	Rated current I_e A	**Part no. suffix** Article no. when ordered with basic unit	**Price** see price list	**Part no.** Article no. when ordered separately	**Price** see price list	Std. pack
Connection on rear for component adapters						
For component adapters for LZM2, LZM3						
LZM2	250	**+NZM2-XKR4O** 281664		**NZM2-XKR4** 281666		1 off
LZM2	250	**+NZM2-XKR4U** 281665		**NZM3-XKR13** 281668		1 off
LZM3	550	**+NZM3-XKR13O** 281667				1 off

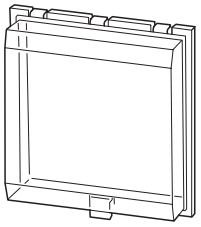
Notes

Part no. and part no. suffix include parts for one switch side at top or bottom (with LZM3 top only). Required with component adapter and switch with connection on rear, see for example component adapter 104555 and 104556.
O = for fitting at the top
U = for fitting at the bottom

Accessories LZM2, LZM3, LZM4



For use with	Rated control voltage U_s V	**Part no.** Article no. when ordered separately	**Price** see price list	Std. pack
Remote operator				
For remote switching of circuit-breakers and switch-disconnectors. ON and OFF switching and resetting by means of 2-wire or 3-wire control. Can be synchronized. Local switching by hand possible Lockable in the 0 position of the remote operator with up to 3 padlocks (hasp thickness: 4 – 8 mm)				
LZM2(-4)	110 – 130 V 50/60 Hz	**NZM2-XR110-130AC** 259830		1 off
	208 – 240 V 50/60 Hz	**NZM2-XR208-240AC** 259832		1 off
	380 – 440 V 50/60 Hz	**NZM2-XR380-440AC** [1] 259834		1 off
	24 – 30 V DC	**NZM2-XR24-30DC** 259836		1 off
	110 – 130 V DC	**NZM2-XR110-130DC** 259840		1 off
	220 – 250 V DC	**NZM2-XR220-250DC** 259842		1 off
LZM3(-4)	110 – 130 V 50/60 Hz	**NZM3-XR110-130AC** 259848		1 off
	208 – 240 V 50/60 Hz	**NZM3-XR208-240AC** 259850		1 off
	380 – 440 V 50/60 Hz	**NZM3-XR380-440AC** [1] 259852		1 off
	24 – 30 V DC	**NZM3-XR24-30DC** 259854		1 off
	110 – 130 V DC	**NZM3-XR110-130DC** 259858		1 off
	220 – 250 V DC	**NZM3-XR220-250DC** 259860		1 off
LZM4(-4)	110 – 130 V 50/60 Hz	**NZM4-XR110-130AC** 266684		1 off
	208 – 240 V 50/60 Hz	**NZM4-XR208-240AC** 266685		1 off
	380 – 440 V 50/60 Hz	**NZM4-XR380-440AC** [1] 266686		1 off
	24 – 30 V DC	**NZM4-XR24-30DC** 266691		1 off
	110 – 130 V DC	**NZM4-XR110-130DC** 266693		1 off
	220 – 250 V DC	**NZM4-XR220-250DC** 266694		1 off
Shroud for 4th pole Additional shroud for mounting the NZM2-XR... and NZM3-XR... on a 4 pole switch.				
LZM2-4		**NZM2-XAVPR** 266677		1 off
LZM3-4		**NZM3-XAVPR** 266678		1 off
Clamp terminal springloaded clamp Control circuit terminal springloaded terminals				
NZM...-XR...		**NZM-XRC** 266696		1 off



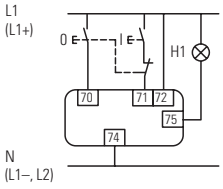
Protective cover for door cutout Transparent protective shroud to increase the degree of protection to IP54				
–		**RTR-NZM10** 034825		1 off

Notes

A standard auxiliary contact (HIN) for the switch position detection is supplied.

When installing the NZM2-XR… and NZM3-XR… remote operators on 4 pole switches, an additional 4 pole NZM2-XAVPR or NZM3-XAVPR shroud is necessary.

3-wire control



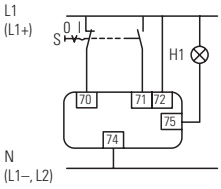
Terminal 70/71:

Please note during engineering:

Full current flows though the contact during make and break!

RMQ series contact elements can be used for the NZM2(3,4)-XR… remote operators.

2-wire control



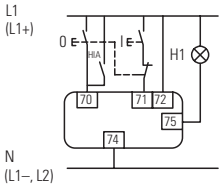
Terminal 75:

Operational readiness signal when the cover is closed, and not locked.

AC-15: 400 V; 2 A

DC-13: 220 V; 0.2 A

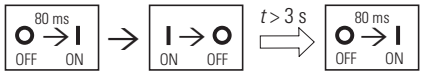
3-wire control with automatic reset to the 0 position after the switch has tripped



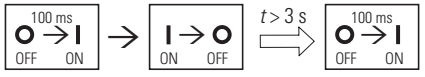
Switching cycle:

NZM2-XR

NZM3-XR



NZM4-XR

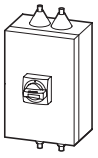
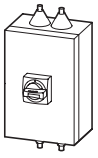


The time interval between OFF and ON is 3 seconds.

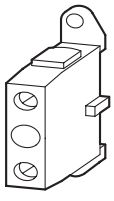
On commands received during the time interval are ignored within the first 3 seconds after switch off.

Electrical remote switching and manual tripping (push to trip) are still possible.

Insulated enclosures NZM...-XCI...

	Max. rated uninterrupted current I_u A	For use with	**Part no.** Article no. when ordered separately	**Price** see price list	Std. pack
Insulated enclosures					
With door coupling rotary handle Complete incl. all necessary functional parts Degree of protection IP65 not UL/CSA approved					
Standard, black/grey					
 Lockable on the 0 position on the handle using up to 3 padlocks. Additionally with cover interlock.	≦ 63 A	NZM1	**NZM1-XCI23-TVD** 271522		1 off
	≦ 125 A	NZM1(-4)	**NZM1-XCI43-TVD** 271523		1 off
	≦ 160 A	NZM1(-4)	**NZM1-XCI43/2-TVD** 104645		1 off
	≦ 200 A	NZM2(-4)	**NZM2-XCI43-TVD** 271524		1 off
	≦ 250 A	NZM2(-4)	**NZM2-XCI45-TVD** 280418		1 off
	≦ 400 A	NZM3(-4)	**NZM3-XCI48-TVD** 271525		1 off
Red-yellow for Emergency-Stop					
 Lockable on the handle and on the switch using up to 3 padlocks each. Lockable in 0 position on handle. Cover interlock as additional feature, locking facility on circuit-breaker in 0 position.	≦ 63 A	NZM1	**NZM1-XCI23-TVDVR** 271527		1 off
	≦ 125 A	NZM1(-4)	**NZM1-XCI43-TVDVR** 271528		1 off
	≦ 160 A	NZM1(-4)	**NZM1-XCI43/2-TVDVR** 104646		1 off
	≦ 200 A	NZM2(-4)	**NZM2-XCI43-TVDVR** 271529		1 off
	≦ 250 A	NZM2(-4)	**NZM2-XCI45-TVDVR** 279356		1 off
	≦ 400 A	NZM3(-4)	**NZM3-XCI48-TVDVR** 271530		1 off

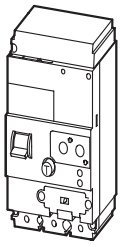
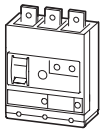
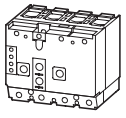
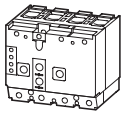
Additional insulated terminals



Rated uninterrupted current I_u A	Terminal capacities mm²	**Part no.** Article no. when ordered separately	**Price** see price list	Std. pack
Additional insulated terminals				
For looping through the neutral and protective conductor 1-pole				
32	Flexible, 1 × (1.5 – 6)	**K10/1** 093827		10 off
63	Flexible, 1 × (6 – 16), stranded, 1 × (16 – 25)	**K25/1** 096200		10 off
100	Flexible, 1 × (10 – 35), stranded, 1 × (16 – 50)	**K50/1** 098573		10 off
160	Stranded, 1 × (16 – 95)	**K95/1N/BR** 012336		1 off
250	Stranded, 1 × (35 – 150), 2 × (16 – 70)	**K150/1/BR** 014709		1 off
400	Stranded, 1 × (50 – 240), 2 × (25 – 120)	**K240/1/BR** 017082		1 off
630	Stranded, 1 × (240 – 300), 2 × (50 – 240)	**K2X240/1/BR** 019455		1 off

Insulated enclosure description	Retrofit terminals with 3 pole switches: for 4th and 5th (if required) conductor (N, PE-conductor), with 4 pole switches: for 5th conductor (PE conductor)	**Notes**
CI23-150	K10/1, K25/1	Suitable for installation of circuit-breakers and switch-disconnectorsEnclosure for separate mounting with top and bottom cable entry. Include fixing straps for wall mounting. Short-circuit resistance at 415 V 50/60 Hz to 10 kA. Cannot be used in combination with NZM…-XR… remote operator…, NZM…-XSV plug-in unit or NZM…-XAV withdrawable unit. Insulated additional terminal for 4th or 5th pole should be ordered separately. CI23 enclosure with flanges CI43, CI45 and CI48 feature gland plates. **Only for switches with tunnel clamps for direct connection of cables.**
CI43-150	K10/1, K25/1, K50/1, K95/1N/BR	
CI43-200	K10/1, K25/1, K50/1, K95/1N/BR	
CI43-200	K10/1, K25/1, K50/1, K95/1N/BR, K150/1/BR, K240/1/BR	
CI45-200	K10/1, K25/1, K50/1, K95/1N/BR, K150/1/BR, K240/1/BR	
CI48-250	K95/1N/BR, K150/1/BR , K240/1/BR, K2X240/1/BR	
CI23-150	K10/1, K25/1	
CI43-150	K10/1, K25/1, K50/1, K95/1N/BR	
CI43-200	K10/1, K25/1, K50/1, K95/1N/BR	
CI43-200	K10/1, K25/1, K50/1, K95/1N/BR, K150/1/BR, K240/1/BR	
CI45-200	K10/1, K25/1, K50/1, K95/1N/BR, K150/1/BR, K240/1/BR	
CI48-250	K95/1N/BR, K150/1/BR , K240/1/BR, K2X240/1/BR	

Residual-current release frequency response NZM...XFI...

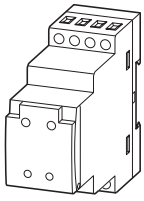
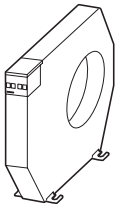
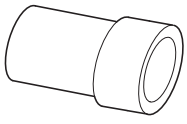
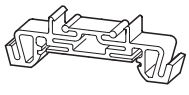
	For use with			Part no. Order number for separate orders	Price see price list	Std. pack	Notes
Earth-fault release							
Suitable for use in three- and single-phase systems							
Pulse current sensitive according to core-balance principle							
 For 3- and 4 pole LZM1(-4) circuit-breakers dependant on mains power U_e = 200 … 415 V 50/60 Hz,							
Rated fault current $I_{\triangle n}$ = 0.03 A	NZM1	3 pole		**NZM1-XFI30R** 104603		1 off	IEC/EN 60947-2 With $I_{\triangle n}$ = 0.03 A: delay time t_v always fixed settings at 10 ms. Alarm message > 30 % $I_{\triangle n}$ via yellow LED. Trip indication max. 2 auxiliary contacts (HIAFI) can be fitted by user: N/O = M22-K01, N/C = M22-K10 are reset via the reset toggle lever. If the trip-indicating auxiliary contact in the fault current block is used, the N/C contacts operates as a N/O contact and the N/C contact operates as an N/O contact (see HIAFI marking). Not in combination with insulated enclosure or main switch assembly kit for side panel mounting with mounting bracket NZM1-XFI…U not in combination with shunt or undervoltage relase. Rated ultimate short-circuit breaking capacity is determined by the fitted LZM1.
	NZM1-4	4 pole		**NZM1-4-XFI30R** 104606		1 off	
Rated fault current $I_{\triangle n}$ = 0.3 A	NZM1	3 pole		**NZM1-XFI300R** 104604		1 off	
	NZM1-4	4 pole		**NZM1-4-XFI300R** 104607		1 off	
Rated fault current $I_{\triangle n}$ = 0.03 – 0.1 – 0.3 – 0.5 – 1 – 3 A, delay time t_v = 10 – 60 – 150 – 300 – 450 ms.	NZM1	3 pole		**NZM1-XFIR** 104605		1 off	
	NZM1-4	4 pole		**NZM1-4-XFIR** 104608		1 off	
 Bottom mounting up to 100 A							
Rated fault current $I_{\triangle n}$ = 0.03 A	NZM1	3 pole		**NZM1-XFI30U** [1] 104609		1 off	
	NZM1-4	4 pole		**NZM1-4-XFI30U** 104612		1 off	
Rated fault current $I_{\triangle n}$ = 0.3 A	NZM1	3 pole		**NZM1-XFI300U** 104610		1 off	
	NZM1-4	4 pole		**NZM1-4-XFI300U** 104613		1 off	
Rated fault current $I_{\triangle n}$ = 0.03 – 0.1 – 0.3 – 0.5 – 1 – 3 A, delay time t_v = 10 – 60 – 150 – 300 – 450 ms.	NZM1	3 pole		**NZM1-XFIU** 104611		1 off	
	NZM1-4	4 pole		**NZM1-4-XFIU** 104614		1 off	
 Pulse current sensitive according to core-balance principle							
For 4 pole circuit-breaker LZM2-4 independent of mains voltage U_e = 280 – 690 V 50/60 Hz bottom mounting up to 250 A							
Rated fault current $I_{\triangle n}$ = 0.03 A	NZM2-4	4 pole		**NZM2-4-XFI30** 292343		1 off	IEC/EN 60947-2 Auxiliary contacts (1 N/O, 1N/C integrated) are reset via the reset button. Not in combination with plug-in units, insulated enclosure or main switch assembly kit for side panel mounting with mounting bracket. Rated ultimate short-circuit breaking capacity is determined by the fitted LZM2.
Rated fault current $I_{\triangle n}$ 0.1 - 0.3 - 1 - 3 A, delay time t_v = 60 - 150 - 300 - 450 ms	NZM2-4	4 pole		**NZM2-4-XFI** 292344		1 off	
 Core-balance principle with AC/DC current sensitivity (in range 0 – 100 kHz)							
For 4 pole LZM2-4 circuit-breakers internal power supply U_e = 50 … 400 V, bottom mounting up to 250 A							
Rated fault current $I_{\triangle n}$ = 0.03 A	NZM2-4	4 pole		**NZM2-4-XFIA30** 292345		1 off	IEC/EN 60947-2 Observe response threshold dependence on frequency! See "Frequency response" characteristic curve Auxiliary contacts (1 N/O, 1N/C integrated) are reset via the reset button. Not in combination with plug-in units, insulated enclosure or main switch assembly kit for side panel mounting with mounting bracket. Rated ultimate short-circuit breaking capacity is determined by the fitted LZM2.
Rated fault current $I_{\triangle n}$ 0.1 - 0.3 - 1 A, delay time t_v = 60 - 150 - 300 - 450 ms	NZM2-4	4 pole		**NZM2-4-XFIA** 292346		1 off	

Notes [1] Suitable for use in three-phase systems

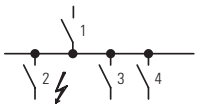
Residual-current release frequency response NZM3, NZM4

	For use with	Part no. Article no. when ordered with basic unit	Price see price list	Std. pack	Notes
Earth-fault release, 3-pole, 4-pole					
Not dependent on mains and control voltages I_g = 0.35 – 0.4 – 0.5 – 0.6 – 0.7 – 0.8 – 0.9 – 1.0 × I_n t_g = 0 – 20 – 60 – 100 – 200 – 300 – 500 – 750 – 1000 ms	LZM3	**+NZM3-XT** 260756		1 off	Only suitable for use in conjunction with circuit-breakers having electronic releases.
	LZM3-4	**+NZM3-4-XT** 260757		1 off	
	LZM4	**+NZM4-XT** 266721		1 off	
	LZM4-4	**+NZM4-4-XT** 266722		1 off	

Residual-current release frequency response PFR-...

	Description	Part no. Article no.	Price see price list	Std. pack	Notes
	**Residual current relay** Pulse-current sensitive Rated control supply voltage: U_s = 230 V AC (50/60Hz) Integrated auxiliary contact (1 C/O) Ring-type transformer must also be ordered				
	Rated fault current $I_{\triangle N}$ = 0.03 A	**PFR-003** 285555		1 off	
	Rated fault current $I_{\triangle N}$ = 0.3 A	**PFR-03** 285556		1 off	
	Rated fault current $I_{\triangle N}$ = 0.03 – 5 A Adjustable fault current and delay time Fault current early warning by flashing, red LED	**PFR-5** 285557		1 off	Adjustable fault current: 0.03, 0.1, 0.3, 0.5, 1, 3, 5 A Adjustable delay time: 0.02, 0.1, 0.3, 0.5, 1, 3, 5 A
	Ring-type transformer Rated operational voltage: 690 V (50/60 Hz)				
	Internal diameter: 20 mm	**PFR-W-20** 285558		1 off	incl. fixing clip for DIN rail mounting
	Internal diameter: 30 mm	**PFR-W-30** 285559		1 off	
	Internal diameter: 35 mm	**PFR-W-35** 285600		1 off	incl. screw fixing Alternative: fixing clip for DIN mounting rail **Design note:** The current transformer diameter must be selected 1.5 times larger than the envelope diameter of the passed through conductor.
	Internal diameter: 70 mm	**PFR-W-70** 285601		1 off	
	Internal diameter: 105 mm	**PFR-W-105** 285602		1 off	
	Internal diameter: 140 mm	**PFR-W-140** 285603		1 off	
	Internal diameter: 210 mm	**PFR-W-210** 285604		1 off	
	**Magnetic shielding**				
	PFR-W-35	**PFR-WMA-35** 286001		1 off	Necessary for a load circuit with high inrush currents > 4 × I_n, such as for example motors and
	PFR-W-70	**PFR-WMA-70** 286002		1 off	
	PFR-W-105	**PFR-WMA-105** 286003		1 off	
	PFR-W-140	**PFR-WMA-140** 286004		1 off	
	PFR-W-210	**PFR-WMA-210** 286005		1 off	
	**Fixing clip**				
	for the DIN rail mounting of the PFR-W-35 current transformer and all larger	**PFR-WC** 286006		1 off	1 set = 2 pieces

Selectivity: incoming circuit-breaker, outgoing circuit-breaker LZM, FAZ-B(C), PKZ



Incoming circuit-breaker

Outgoing circuit-breaker

Selectivity 415 V AC

between circuit-breakers enables separate shut-down of faulty system sections.

Selectivity (discrimination) exists between incoming breaker 1 and outgoing breaker 2 if, **only** outgoing breaker 2 trips at position 2 during a short-circuit.
System sections 3 and 4 continue to operate.

Incoming circuit-breaker (S1)

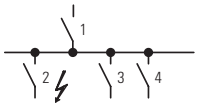
			LZM...1-A...							**LZM...2-A...**				
	I_{cu} [kA]		25(36)(50)(70)							25(36)(50)(70)				
	I_n [A]		20...40	50	63	80	100	125	160	20...40	50	63	80	100
Outgoing circuit-breaker (S2)	I_n [A]	$I_{cu(415V)}$ [kA]	Selectivity threshold I_s [kA] for selectivity between S2 and S1, overload and short-circuit release set to max. value											
FAZ–B(C)	0.5	15	T	T	T	T	T	T	T	T	T	T	T	T
	1	15	T	T	T	T	T	T	T	T	T	T	T	T
	2	15	2	T	T	T	T	T	T	3	T	T	T	T
	3	15	1.2	2	3	3	10	T	T	1.5	1.5	3	5	T
	4	15	1.2	2	3	3	8	T	T	1.2	1.5	3	4	T
	6	15	1.2	2	2.5	3	5	10	10	1.2	1.5	2.5	3	T
	10	15	1.2	1.5	2	2	4	10	10	1	1.5	2.5	3	10
	13	15	1	1.5	2	2	4	10	10	1	1.2	2	3	10
	16	15	1	1.2	1.5	2	3	8	8	1	1.2	1.5	2.5	10
	20	15	0.8	1.2	1.5	1.5	3	8	8	1	1.2	1.5	2.5	10
	25	15	0.7	1.2	1.5	1.5	3	7	7	0.8	1	1.5	2	10
	32	15	–	1.2	1	1.5	2	6	6	–	1	1.5	2	8
	40	15	–	–	1	1.5	2	5	5	–	–	1.2	1.5	7
	50	15	–	–	–	1.2	1.5	4	4	–	–	–	1.5	6
	63	15	–	–	–	–	1.5	3	3	–	–	–	–	6
PKZM0-...	0.16	100	T	T	T	T	T	T	T	T	T	T	T	T
	0.25	100	T	T	T	T	T	T	T	T	T	T	T	T
	0.4	100	T	T	T	T	T	T	T	T	T	T	T	T
	0.63	100	T	T	T	T	T	T	T	T	T	T	T	T
	1	100	T	T	T	T	T	T	T	T	T	T	T	T
	1.6	100	T	T	T	T	T	T	T	T	T	T	T	T
	2.5	100	T	T	T	T	T	T	T	T	T	T	T	T
	4	100	T	T	T	T	T	T	T	T	T	T	T	T
	6.3	100	4	5	5	T	T	T	T	2	3	4	5	T
	10	100	3	4	5	6	25	T	T	1.5	2.5	4	4	T
	12	50	3	4	5	6	25	T	T	1.5	2.5	4	4	T
	16	50	1.5	1.5	2	3	5	7	T	1	1.6	2	2.5	T
	20	50	0.8	1.5	1.5	2	3	5	T	0.8	1.2	1.5	2	T
	25	50	–	1	1.5	1.5	2.5	4	T	–	1	1.5	2	10
	32	50	–	–	1	1	2	3.5	T	–	–	1	1.5	8
PKZ2/ZM-...	0.6	100	T	T	T	T	T	T	T	T	T	T	T	T
	1.0	100	T	T	T	T	T	T	T	T	T	T	T	T
	1.6	100	T	T	T	T	T	T	T	T	T	T	T	T
	2.4	100	1.2	2	2.5	10	T	T	T	1.2	2	2.5	10	T
	4	100	1	1.5	2	2.5	2.5	4	10	1	1.5	2	2.5	2.5
	6	100	0.6	0.8	1	1.2	2	3	8	0.6	0.8	1	1.2	2
	10	100	0.5	0.7	0.8	1	1.2	2	4	0.5	0.7	0.8	1	1.2
	16	100	0.5	0.6	0.7	0.8	1.2	1.5	3	0.5	0.6	0.7	0.8	1.2
	25	30	–	0.6	0.7	0.7	1.2	1.5	2	–	0.6	0.7	0.7	1.2
	32	30	–	–	0.6	0.7	1.2	1.5	2	–	–	0.6	0.7	1.2
	40	30	–	–	0.6	0.7	1	1.5	2	–	–	0.6	0.7	1
PKZM4	16	100	0.5	0.8	0.8	0.8	2	5	5	0.5	0.8	0.8	0.8	2
	25	100	–	0.7	0.8	0.8	1.5	5	5	–	0.7	0.8	0.8	1.5
	32	50	–	–	0.8	0.8	1.5	4	4	–	–	0.8	0.8	1.5
	40	50	–	–	–	0.8	1.5	3	3	–	–	–	0.8	1.5
	50	50	–	–	–	–	1	2.5	2.5	–	–	–	–	1
	58	50	–	–	–	–	–	2.5	2.5	–	–	–	–	–
	63	50	–	–	–	–	–	2	2	–	–	–	–	–

Notes T: full selectivity

Incoming circuit-breaker (S1)

LZM...2-A...					LZM...3-AE...		LZM...3-VE...		LZM...4-AE...				LZM...4-VE...			
25(36)(50)(70)					50(70)		50(70)		50(70)				50(70)			
125	160	200	250	300	400	630	400	630	800	1000	1250	1600	800	1000	1250	1600
Selectivity threshold I_s [kA] for selectivity between S2 and S1, overload and short-circuit release set to max. value																
T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
10	10	10	10	10	T	T	T	T	T	T	T	T	T	T	T	T
10	10	10	10	10	T	T	T	T	T	T	T	T	T	T	T	T
10	10	10	10	10	T	T	T	T	T	T	T	T	T	T	T	T
10	10	10	10	10	T	T	T	T	T	T	T	T	T	T	T	T
10	10	10	10	10	T	T	T	T	T	T	T	T	T	T	T	T
8	8	8	10	10	T	T	T	T	T	T	T	T	T	T	T	T
7	7	7	10	10	T	T	T	T	T	T	T	T	T	T	T	T
6	6	6	10	10	T	T	T	T	T	T	T	T	T	T	T	T
6	6	6	10	10	T	T	T	T	T	T	T	T	T	T	T	T
T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
40	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
10	10	10	T	T	T	T	T	T	T	T	T	T	T	T	T	T
8	8	8	10	10	T	T	T	T	T	T	T	T	T	T	T	T
4	4	4	5	5	13	T	13	T	T	T	T	T	T	T	T	T
3	3	3	4	4	7	T	7	T	T	T	T	T	T	T	T	T
2	2	2	3	3	5	20	5	20	T	T	T	T	T	T	T	T
2	2	2	3	3	3.5	15	3.5	15	T	T	T	T	T	T	T	T
2	2	2	2	2	3.5	15	3.5	15	T	T	T	T	T	T	T	T
5	5	5	5	5	16	45	16	45	T	T	T	T	T	T	T	T
5	5	5	5	5	10	25	10	25	42	T	T	T	42	T	T	T
4	4	4	4	4	8	18	8	18	30	45	T	T	30	45	T	T
3	3	3	3	3	8	18	8	18	30	45	T	T	30	45	T	T
2.5	2.5	2.5	2.5	2.5	8	18	8	18	30	45	T	T	30	45	T	T
2.5	2.5	2.5	2.5	2.5	6.5	15	6.5	15	25	40	T	T	25	40	T	T
2	2	2	2	2	6.5	15	6.5	15	25	40	T	T	25	40	T	T

Selectivity: incoming circuit-breaker, outgoing circuit-breaker LZM



Incoming circuit-breaker

Outgoing circuit-breaker

Selectivity 415 V AC

between circuit-breakers enables separate shut-down of faulty system sections.
Selectivity (discrimination) exists between incoming breaker 1 and outgoing breaker 2 if, **only** outgoing breaker 2 trips at position 2 during a short-circuit.
System sections 3 and 4 continue to be operational.

			Incoming circuit-breaker (S1)											
			LZM...1-A...							**LZM...2-A...**				
	I_{cu}[kA]		25(36)(50)(70)							25(36)(50)(70)				
	I_n[A]		20...40	50	63	80	100	125	160	20...40	50	63	80	100
Outgoing circuit-breaker (S2)	I_n [A]	$I_{cu(415V)}$ [kA]	Prospective short-circuit current (kA). Set the overload and short-circuit release of the incoming circuit-breaker to the max. value.											
LZM...1-A...	20...40	25...100	–	–	0.5	0.7	0.8	1.5	1.5	–	–	0.6	0.8	1.5
	50	25...100	–	–	–	0.6	0.8	1.5	1.5	–	–	–	0.8	1.5
	63	25...100	–	–	–	–	0.8	1.5	1.5	–	–	–	–	1.5
	80	25...100	–	–	–	–	–	1.5	1.5	–	–	–	–	–
	100	25...100	–	–	–	–	–	–	1.5	–	–	–	–	–
	125	25...100	–	–	–	–	–	–	–	–	–	–	–	–
	160	25...100	–	–	–	–	–	–	–	–	–	–	–	–
LZM...2-A...	20...40	25...150	–	–	0.5	0.6	0.8	1	1	–	–	0.5	0.6	0.8
	50	25...150	–	–	–	0.6	0.8	1	1	–	–	–	0.6	0.8
	63	25...150	–	–	–	–	0.8	1	1	–	–	–	–	0.8
	80	25...150	–	–	–	–	–	1	1	–	–	–	–	–
	100	25...150	–	–	–	–	–	–	1	–	–	–	–	–
	125	25...150	–	–	–	–	–	–	–	–	–	–	–	–
	160	25...150	–	–	–	–	–	–	–	–	–	–	–	–
	200	25...150	–	–	–	–	–	–	–	–	–	–	–	–
	250	25...150	–	–	–	–	–	–	–	–	–	–	–	–
LZM...2-VE...	100	50...150	–	–	–	–	–	–	–	–	–	–	–	–
	160	50...150	–	–	–	–	–	–	–	–	–	–	–	–
	250	50...150	–	–	–	–	–	–	–	–	–	–	–	–
LZM...3-AE...	250	50...150	–	–	–	–	–	–	–	–	–	–	–	–
	400	50...150	–	–	–	–	–	–	–	–	–	–	–	–
	630	50...150	–	–	–	–	–	–	–	–	–	–	–	–
LZM...3-VE...	250	50...150	–	–	–	–	–	–	–	–	–	–	–	–
	400	50...150	–	–	–	–	–	–	–	–	–	–	–	–
	630	50...150	–	–	–	–	–	–	–	–	–	–	–	–
LZM...4-AE...	630	50...100	–	–	–	–	–	–	–	–	–	–	–	–
	800	50...100	–	–	–	–	–	–	–	–	–	–	–	–
	1000	50...100	–	–	–	–	–	–	–	–	–	–	–	–
	1250	50...100	–	–	–	–	–	–	–	–	–	–	–	–
	1600	50...100	–	–	–	–	–	–	–	–	–	–	–	–
LZM...4-VE...	630	50...100	–	–	–	–	–	–	–	–	–	–	–	–
	800	50...100	–	–	–	–	–	–	–	–	–	–	–	–
	1000	50...100	–	–	–	–	–	–	–	–	–	–	–	–
	1250	50...100	–	–	–	–	–	–	–	–	–	–	–	–
	1600	50...100	–	–	–	–	–	–	–	–	–	–	–	–

Notes T: total selectivity

Incoming circuit-breaker (S1)

LZM...2 -A...					**LZM...3-AE...**		**LZM...3-VE...**		**LZM...4-AE...**				**LZM...4-VE...**			
25(36)(50)(70)					50(70)		50(70)		50(70)				50(70)			
125	160	200	250	300	400	630	400	630	800	1000	1250	1600	800	1000	1250	1600
Prospective short-circuit current (kA). Set the overload and short-circuit release of the incoming circuit-breaker to the max. value.																
1.5	1.5	2	3	3	20	20	25	25	T	T	T	T	T	T	T	T
1.5	1.5	2	3	3	20	20	25	25	T	T	T	T	T	T	T	T
1.5	1.5	2	3	3	15	15	20	20	T	T	T	T	T	T	T	T
1.5	1.5	2	3	3	15	15	20	20	T	T	T	T	T	T	T	T
–	1.5	2	3	3	15	15	20	20	T	T	T	T	T	T	T	T
–	–	2	3	3	15	15	20	20	T	T	T	T	T	T	T	T
–	–	2	3	3	15	15	20	20	T	T	T	T	T	T	T	T
1	1.2	1.6	2	2	15	15	20	20	T	T	T	T	T	T	T	T
1	1.2	1.6	2	2	15	15	20	20	T	T	T	T	T	T	T	T
1	1.2	1.6	2	2	15	15	20	20	T	T	T	T	T	T	T	T
1	1.2	1.6	2	2	15	15	20	20	T	T	T	T	T	T	T	T
–	1.2	1.6	2	2	15	15	20	20	T	T	T	T	T	T	T	T
–	–	1.6	2	2	15	15	20	20	T	T	T	T	T	T	T	T
–	–	–	2	2	10	10	15	15	T	T	T	T	T	T	T	T
–	–	–	–	–	10	10	15	15	T	T	T	T	T	T	T	T
–	–	–	–	–	10	10	15	15	T	T	T	T	T	T	T	T
–	1.2	1.6	2	2	7	10	8	11	20	50	T	T	20	50	T	T
–	–	–	–	–	7	10	8	11	20	50	T	T	20	50	T	T
–	–	–	–	–	7	10	8	11	20	50	T	T	20	50	T	T
–	–	–	–	–	5	7.5	10	12	T/80	T/80	T/80	T/80	T/80	T/80	T/80	T/80
–	–	–	–	–	–	7.5	–	12	T/80	T/80	T/80	T/80	T/80	T/80	T/80	T/80
–	–	–	–	–	–	–	–	–	T/80	T/80	T/80	T/80	T/80	T/80	T/80	T/80
–	–	–	–	–	3.5	4	10	12	T/80	T/80	T/80	T/80	T/80	T/80	T/80	T/80
–	–	–	–	–	–	4	–	12	T/80	T/80	T/80	T/80	T/80	T/80	T/80	T/80
–	–	–	–	–	–	–	–	–	T/80	T/80	T/80	T/80	T/80	T/80	T/80	T/80
–	–	–	–	–	–	–	–	–	10	15	20	20	10	15	20	20
–	–	–	–	–	–	–	–	–	–	–	20	20	–	–	20	20
–	–	–	–	–	–	–	–	–	–	–	20	20	–	–	20	20
–	–	–	–	–	–	–	–	–	–	–	–	20	–	–	–	20
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	10	15	20	20	10	15	20	20
–	–	–	–	–	–	–	–	–	–	–	20	20	–	–	20	20
–	–	–	–	–	–	–	–	–	–	–	20	20	–	–	20	20
–	–	–	–	–	–	–	–	–	–	–	–	20	–	–	–	20
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

MCB, back-up protection LZM1, LZM2, LZM3

Protection of PVC insulated cables against thermal overload with short-circuits

According to VDE 0100 part 430 cables and conductors must be protected against short-circuit and overload. The overload protection is obtained by using LZM circuit-breakers with settable, current-dependent, delayed overload release.

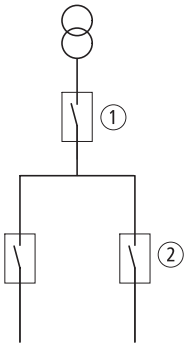
Short-circuit protection is provided by adjustable instantaneous releases, which open the main contacts in less than 25ms. The short-circuit total opening time restricts the temperature rise of the cable to a minimum.

The tables indicate the minimum conductor cross-section reliably protected by circuit-breakers during a short-circuit. (Operating voltage U_N = 415 V)

	Min. protected cross-section mm² copper
LZM...1(-4)-...20	6
LZM...1(-4)-...25 … 160	10
LZM...2(-4)-...20 … 300	10
LZM...3(-4)-...250 … 630	16
LZM...4(-4)-...630 … 1600	95

Back-up protection

between LZM(N)(S) incoming circuit-breaker and LZMB(C)(N)(S) outgoing circuit-breaker



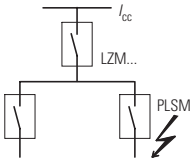
	I_n	**Incoming circuit-breaker** ①									
	$I_{cu(415\ V)}$	**LZM1**				**LZM2**				**LZM3**	
Outgoing circuit-breaker ②		up to 160 A				up to 300 A				up to 630 A	
	$I_{cu(415\ V)}$ I_n	25 kA	36 kA	50 kA	70 kA	25 kA	36 kA	50 kA	70 kA	50 kA	70 kA
LZMB1	25 kA up to 160 A	25	36	50	70	25	36	50	70	50	70
LZMC1	36 kA up to 160 A	–	36	50	70		36	50	70	50	70
LZMN1	50 kA up to 160 A	–	–	50	70	–	–	50	70	50	70
LZMS1	70 kA up to 160 A	–	–	–	70	–	–	–	70	–	70
LZMB2	25 kA up to 300 A	25	36	50	70	25	36	50	70	50	70
LZMC2	36 kA up to 300 A	–	36	50	70	–	36	50	70	50	70
LZMN2	50 kA up to 300 A	–	–	50	70	–	–	50	70	50	70
LZMS2	70 kA up to 300 A	–	–	–	–	–	–	–	70	–	70
LZMN3	50 kA up to 630 A	–	–	–	–	–	–	–	–	50	70
LZMS3	70 kA up to 630 A	–	–	–	–	–	–	–	–	–	70

Where the prospective fault current at the point of installation of circuit-breakers is very high, it is conventional to use LZMN(S) current-limiting circuit-breakers. An attractively priced alternative is to fit a LZMN(S) current-limiting circuit-breaker upstream of LZMB(C)(N) standard circuit-breakers, if the fault level is too high for LZMB(C)(N) switches.

The table shows which current-limiting circuit-breaker LZMN(S) in combination with LZMB(C)(N) are to be used to provide protection at the network locations with high short-circuit capacities.

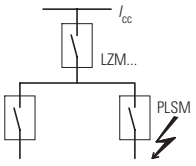
The selectivity limit is determined by the response current of the non-delayed short-circuit release in the upstream incoming circuit-breaker. In many applications this is sufficient.

between LZM...1-A... incoming circuit-breaker and FAZ-B(C)/PLSM-B(C)... outgoing circuit-breaker



Outgoing circuit-breaker	**Outgoing circuit-breaker LZM(B)(C)2-A...**	**LZMC(N)(S)1-A...**
FAZ-B(C)...		
0,5 – 16	25 kA	30 kA
20 – 40	20 kA	20 kA
50, 63	15 kA	15 kA
PLSM-B(C)...(/...)		
0,5 – 16	25 kA	30 kA
20 – 40	20 kA	20 kA
50, 63	15 kA	15 kA

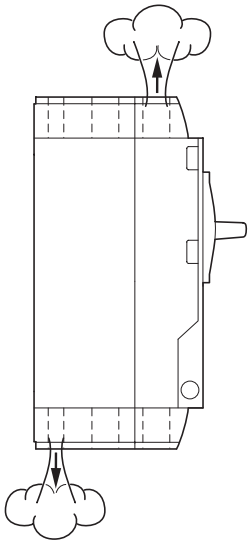
between LZM...2-A... incoming circuit-breaker and FAZ-B(C)/PLSM-B(C)... outgoing circuit-breaker



Outgoing circuit-breaker	**Incoming circuit-breaker LZMB(C)2-A...**	**LZMN(S)2-A...**
FAZ-B(C)...		
0,5 – 10	25 kA	50 kA
13 – 32	25 kA	30 kA
40 – 63	20 kA	20 kA
PLSM-B(C)...(/...)		
0,5 – 10	25 kA	50 kA
13 – 32	25 kA	30 kA
40 – 63	20 kA	20 kA

Direction of blow-out, minimum clearances, tube cable lugs LZM1, LZM2, LZM3, LZM4

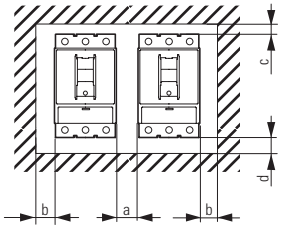
Direction of blow-out



	Top, front	Bottom, rear
LZM1	X	–
LZM2[1]	X	X
LZM3	X	X
LZM4	X	–

[1] LZM2B(C) – A … as LZM1

Minimum clearances



between two adjacently mounted switches
Minimum clearance a in mm

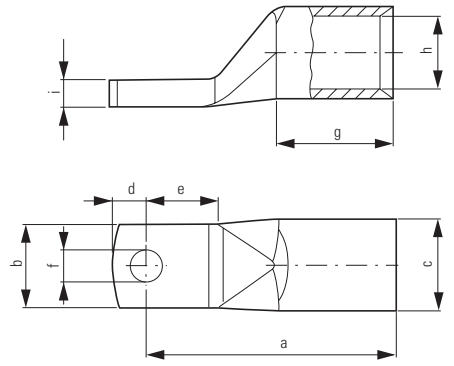
	LZM1	LZM2	LZM3	LZM4
LZM1	0	5	5	15
LZM2	5	5	5	15
LZM3	5	5	5	15
LZM4	15	15	15	15

between switch and other parts
Minimum clearances in mm

	b		c		d	
	≦ 690 V	1000 V	≦ 690 V	1000 V	≦ 690 V	1000 V
LZM1	0	–	60	–	0	–
LZM2[1]	5	5	35	35	35	35
LZM3	5	5	60	60	60	60
LZM4	15	15	100	200	0	0

[1] LZM2B(C) – A … C= 60 mm, d = 0 mm

Dimensions



For pressing the cable lugs a press tool K22, HK60/22 or EK22
from the company Klauke is necessary with the following press inserts:
R22/95 for 95 mm²
R22/120 for 120 mm²
R22/150 for 150 mm²
R22/185 for 185 mm²
R22/240 for 240 mm²

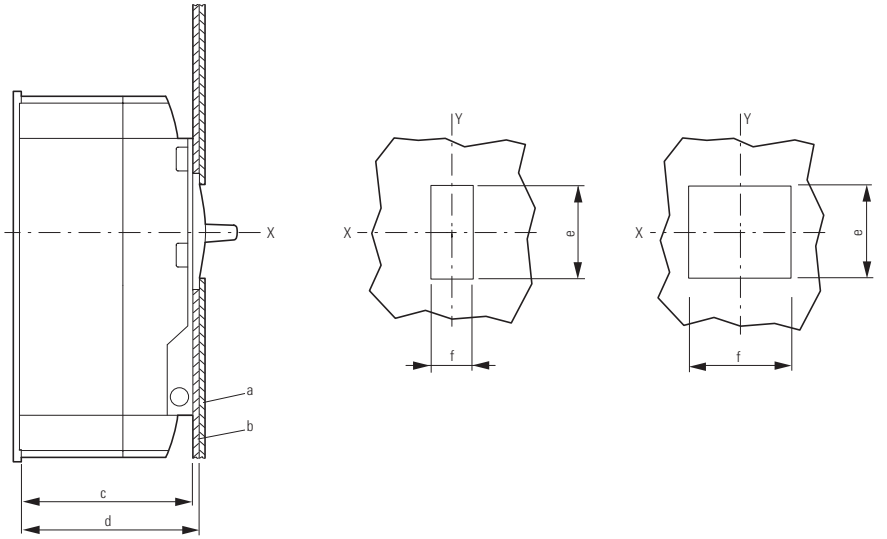
Cable lug	For use with	Rated cross section	Terminal bolt	Dimensions in mm								
		mm²	Ø	a	b	c	d	e	f	g	h	i
KS95-NZM7	LZM2	95	M8	53_{+2}	$23_{\pm 0.5}$	$18_{\pm 0.2}$	$10_{\pm 1}$	19	8,5	25	13,5	4,4
KS120-NZM7	LZM2	120	M8	56_{+2}	$23_{\pm 0.5}$	$19.5_{\pm 0.2}$	$10_{\pm 1}$	19	8,5	26	15	4,4
KS150-NZM7	LZM2	150	M8	61_{+2}	$23_{\pm 0.5}$	$21_{\pm 0.2}$	$10_{\pm 1}$	19	8,5	30	16,5	4,4
NZM2-XKS185	LZM2	185	M8	$65_{\pm 1.5}$	$22_{\pm 1}$	$24_{\pm 0.3}$	$9^{+1}_{-0,5}$	$19^{+2,5}_{-0,5}$	$8.5^{+0,05}_{-0,1}$	$30_{\pm 2}$	$19_{\pm 0.4}$	7
NZM3-XKS185	LZM3, LZM4	185	M10	65	24,5	24	11,5	18	10,5	30	19	$7.0_{\pm 0.8}$
NZM3-XKS240	LZM3, LZM4	240	M10	72	31	26	11,5	19	10,5	35	21	$5.0_{\pm 0.8}$

Auxiliary switches, trip-indicating auxiliary contacts LZM1, LZM2, LZM3, LZM4

Front cut-out

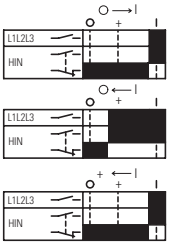
Cut-out a
toggle lever

Cut-out b
rotary handle,
remote operator



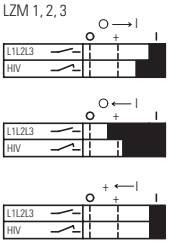
	Distance from mounting plate and door cutout		Cut-out a		Cut-out b	
	c	d	e	f	e	f
	mm	mm	mm	mm	mm	mm
LZM1	68	73	40	23	46	91
LZM2	103	108	79	36	96	101
LZM3	120.5	125.5	79	36	96	136
LZM4	138	146	101	105	118	204

Standard auxiliary contact (HIN)

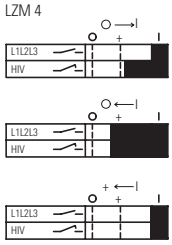


Early-make auxiliary contact (HIV)

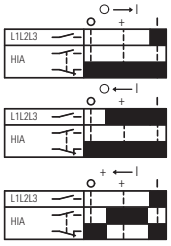
LZM 1, 2, 3



LZM 4



Trip-indicating auxiliary contact (HIA)



0 → I Switching on

0 ← I Switching off

\+ ← I Trip

■ Contact closed

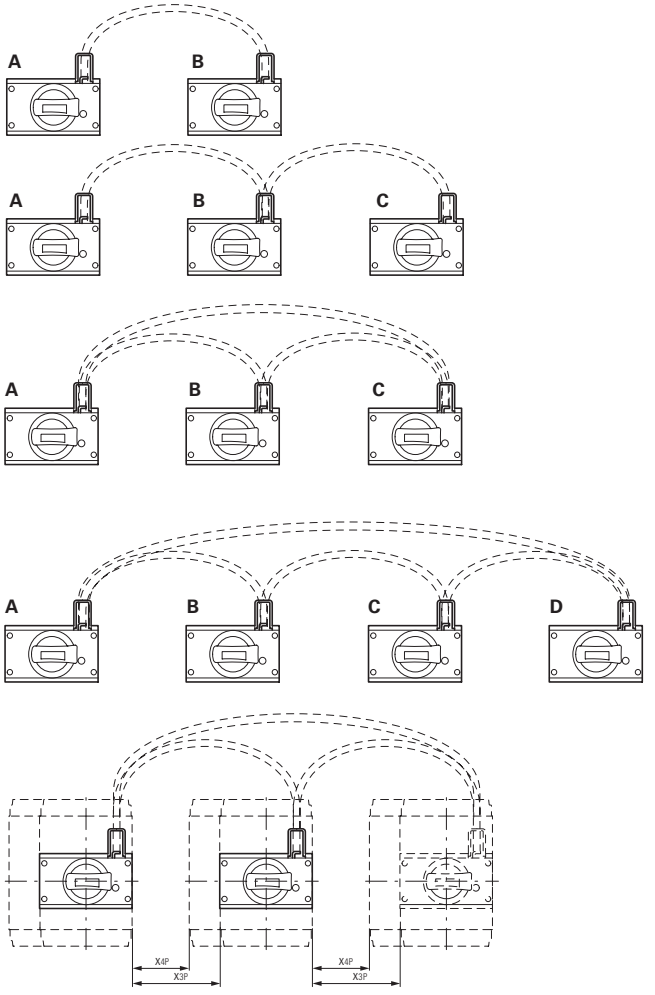
□ Contact open

Notes

If early-make contacts are required in combination with shunt or undervoltage releases, please select the combination type in the “Release” section.

Mechanical interlock for (door-coupling) rotary handles LZM, NZM…-XBZ-…

Interlocking variants and combination options



A	B
OFF	OFF
ON/TRIP	~~ON~~
~~ON~~	ON/TRIP

A	B	C
OFF	OFF	OFF
~~ON~~	ON/TRIP	~~ON~~
ON/TRIP	~~ON~~	ON/TRIP

A	B	C
OFF	OFF	OFF
ON/TRIP	~~ON~~	~~ON~~
~~ON~~	ON/TRIP	~~ON~~
~~ON~~	~~ON~~	ON/TRIP

A	B	C	D
OFF	OFF	OFF	OFF
ON/TRIP	~~ON~~	ON/TRIP	~~ON~~
~~ON~~	ON/TRIP	~~ON~~	ON/TRIP

= Switch clearance 3 pole
= Switch clearance 4 pole

NZM-XBZ225

max. switch clearance		LZM1		LZM2		right switch LZM3		LZM4	
		X_{3P}	X_{4P}	X_{3P}	X_{4P}	X_{3P}	X_{4P}	X_{3P}	X_{4P}
left switch		mm	mm	mm	mm	mm	mm	mm	mm
LZM1	3/4 pole	135	105	120	85	135	90	125	80
LZM2	3/4 pole	135	105	120	85	135	90	125	80
LZM3	3/4 pole	90	75	75	35	85	40	80	45
LZM4	3/4 pole	50	35	40	15	25	–	15	–

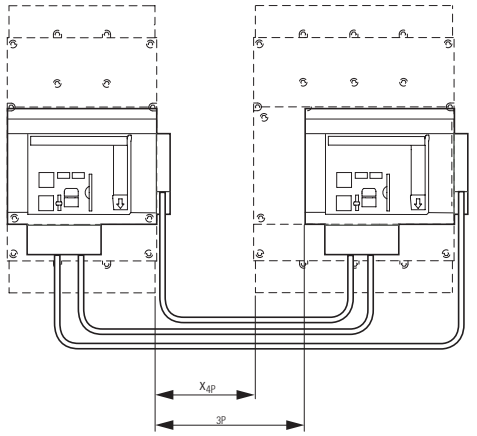
NZM-XBZ600

max. switch clearance		LZM1		LZM2		right switch LZM3		LZM4	
		X_{3P}	X_{4P}	X_{3P}	X_{4P}	X_{3P}	X_{4P}	X_{3P}	X_{4P}
left switch		mm	mm	mm	mm	mm	mm	mm	mm
LZM1	3/4 pole	510	480	495	460	510	465	475	405
LZM2	3/4 pole	510	480	495	460	510	465	475	405
LZM3	3/4 pole	460	430	450	410	460	415	460	390
LZM4	3/4 pole	400	370	380	340	400	375	390	320

NZM-XBZ1000

max. switch clearance		LZM1		LZM2		right switch LZM3		LZM4	
		X_{3P}	X_{4P}	X_{3P}	X_{4P}	X_{3P}	X_{4P}	X_{3P}	X_{4P}
left switch		mm	mm	mm	mm	mm	mm	mm	mm
LZM1	3/4 pole	910	880	895	860	910	865	865	795
LZM2	3/4 pole	910	880	895	860	910	865	865	795
LZM3	3/4 pole	820	790	850	810	860	815	860	790
LZM4	3/4 pole	750	720	730	700	800	775	790	720

Mechanical interlock for remote operator, residual-current relay NZM…-XMVR(L)



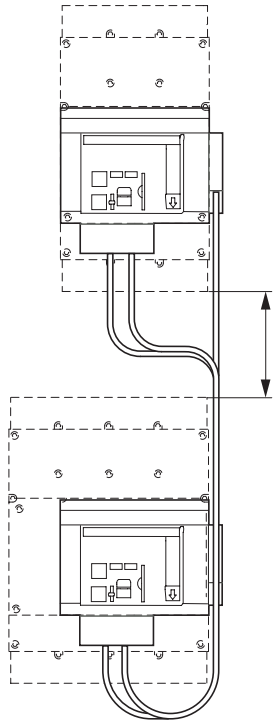
X_{3p} = max. switch clearance 3 pole

X_{4p} = max. switch clearance 4 pole

XMVR mechanical interlock
(Mounting adjacent)

NZM...-XMVR

Max. switch clearance				right switch			
		LZM2		LZM3		LZM4	
		X_{3p}	X_{4p}	X_{3p}	X_{4p}	X_{3p}	X_{4p}
left switch		mm	mm	mm	mm	mm	mm
LZM2	3/4 pole	130	95	95	50	–	–
LZM3	3/4 pole	–	–	135	90	155	85
LZM4	3/4 pole	–	–	–	–	120	50



XMVRL mechanical interlock
Mounting in adjacent enclosures

NZM...-XMVRL

Max. switch clearance				right switch			
		LZM2		LZM3		LZM4	
		X_{3p}	X_{4p}	X_{3p}	X_{4p}	X_{3p}	X_{4p}
left switch		mm	mm	mm	mm	mm	mm
LZM2	3/4 pole	350	315	420	385	–	–
LZM3	3/4 pole	–	–	400	365	460	390
LZM4	3/4 pole	–	–	–	–	420	350

XMVRL mechanical interlock
(Mounting one above the other)

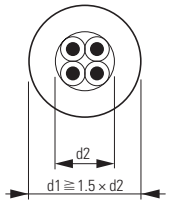
NZM…-XMVRL

Max. switch clearance		Switch top		
		LZM2	LZM3	LZM4
		3/4 pole		
		Y	Y	Y
Switch bottom		mm	mm	mm
LZM2	3/4 pole	220	225	–
LZM3	3/4 pole	–	220	230
LZM4	3/4 pole	–	–	230

Y = max. switch clearance

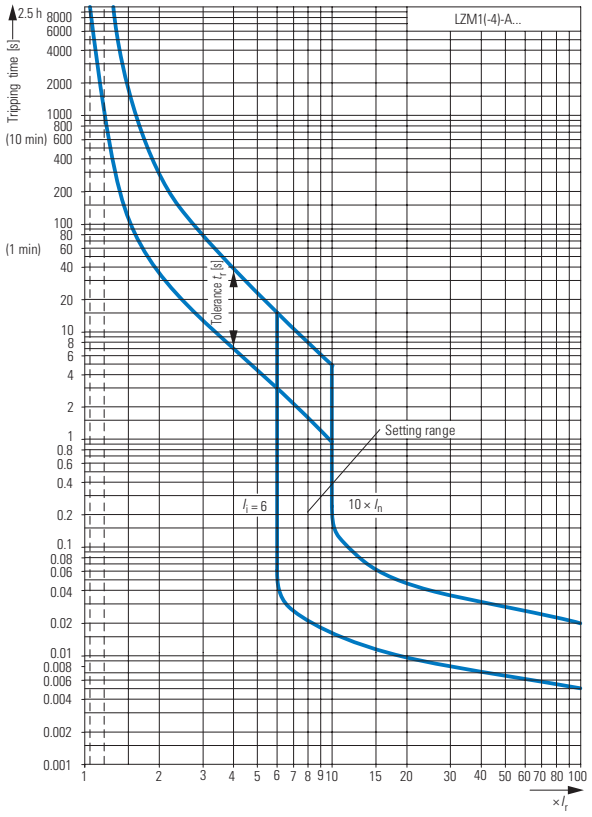
Ring-type transformer

Maximum rated current [A]		**Diameter**	
Power distribution	**Motor/capacitor**	**Transformer part no. PFR-W-… d1**	**Max. conductor circumference (mm) d2**
50	50	20	13
150	100	30	20
150	100	35	23
400	200	70	47
600	250	105	70
1200	630	140	93
1800	800	210	140

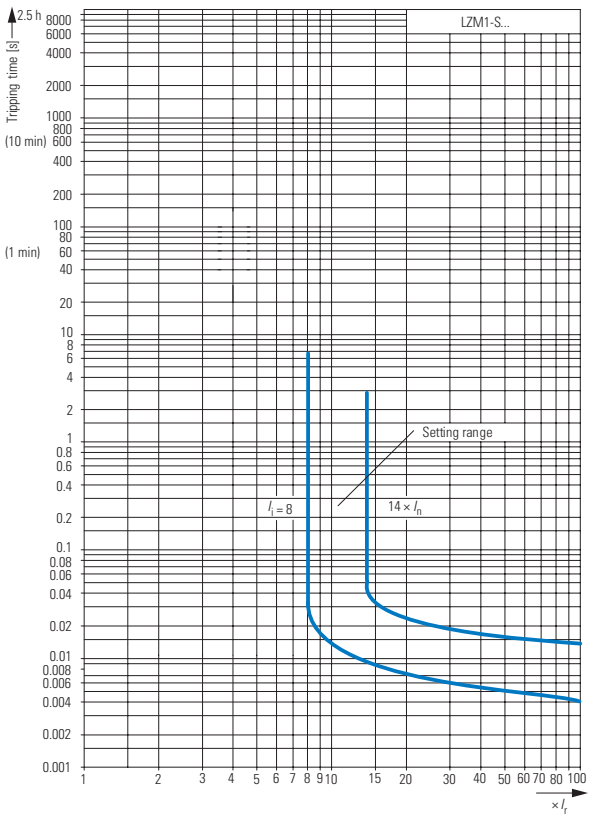


Sizes 1, 2: tripping characteristics LZM1, LZM2

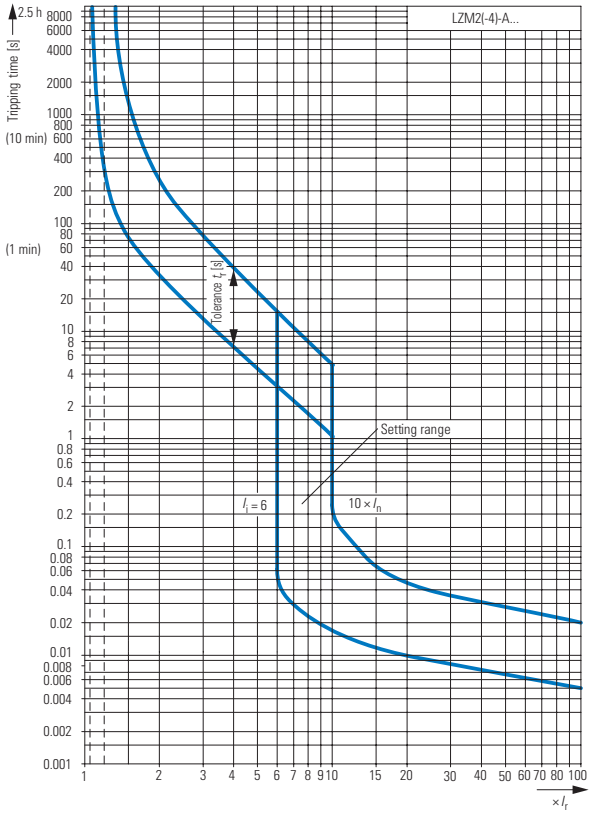
System and line protection with LZM1



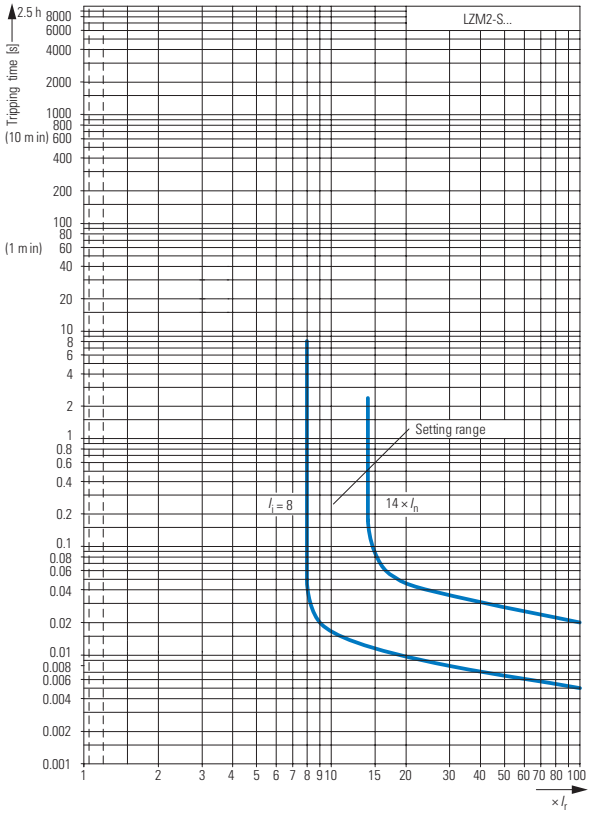
Motor protection with LZM1



System and line protection with LZM2

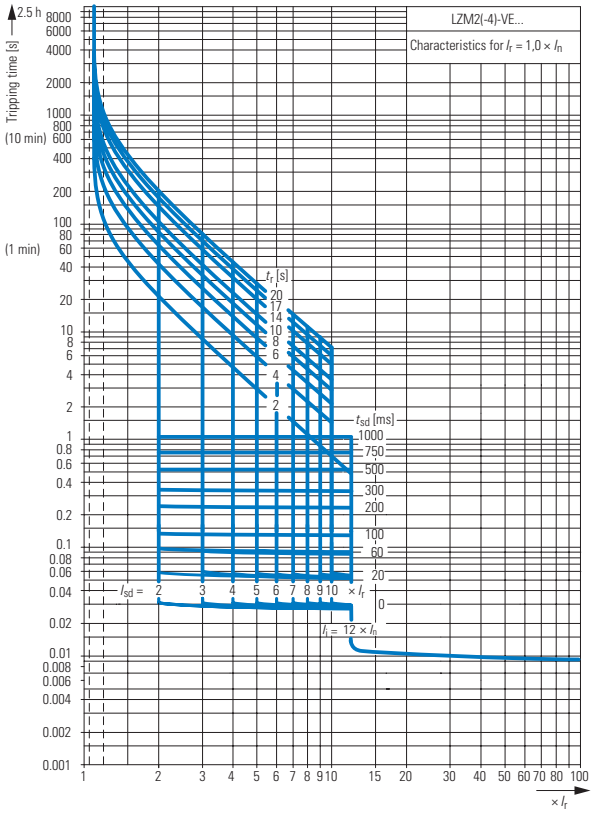


Motor protection with LZM2

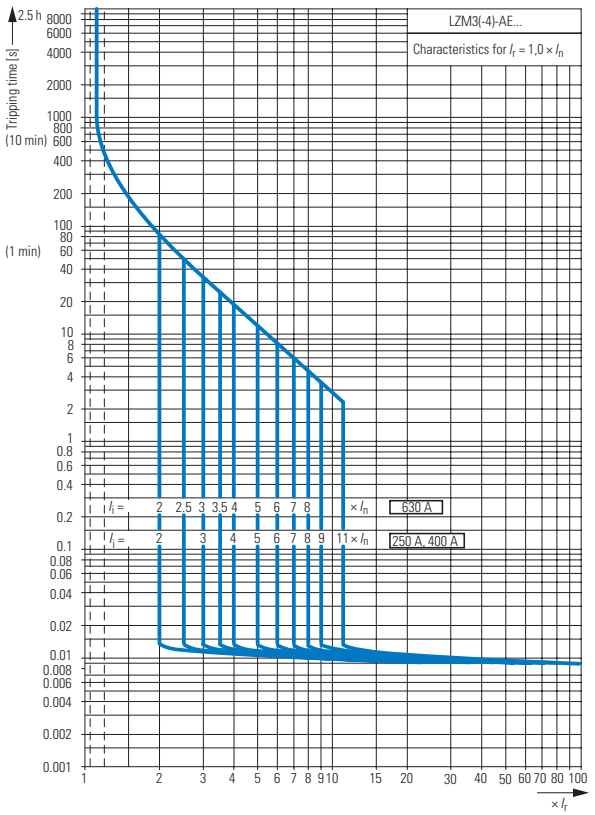


Sizes 2, 3: tripping characteristics LZM2, LZM3

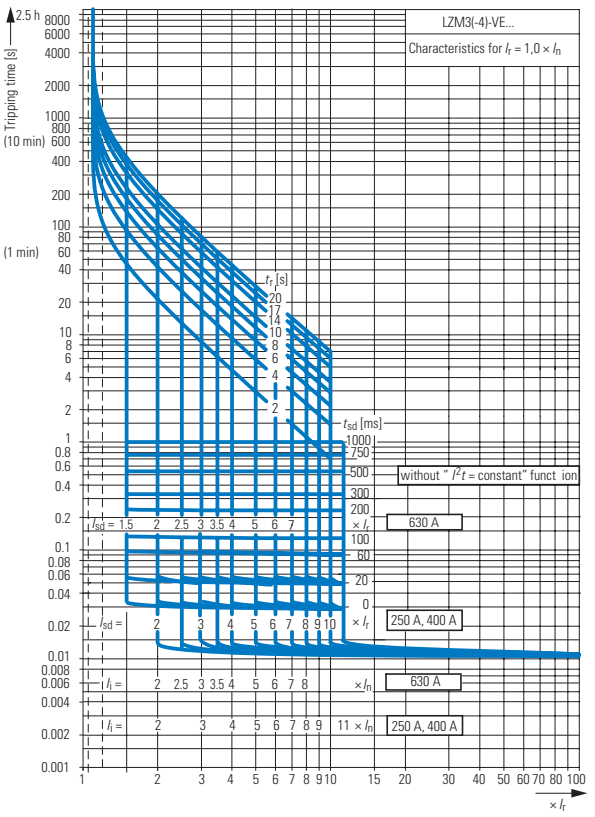
Systems, cable, selectivity and generator protection with LZM2



System and line protection with LZM3

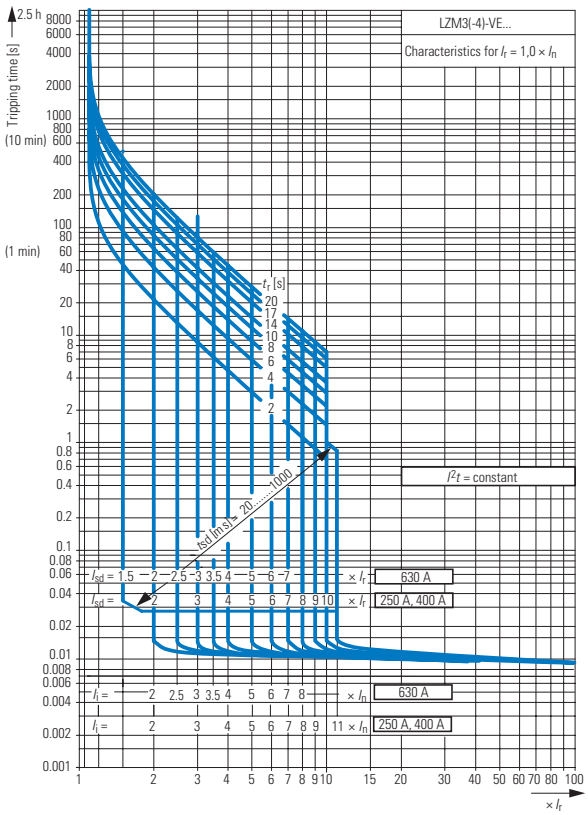


Systems, cable, selectivity and generator protection with LZM3

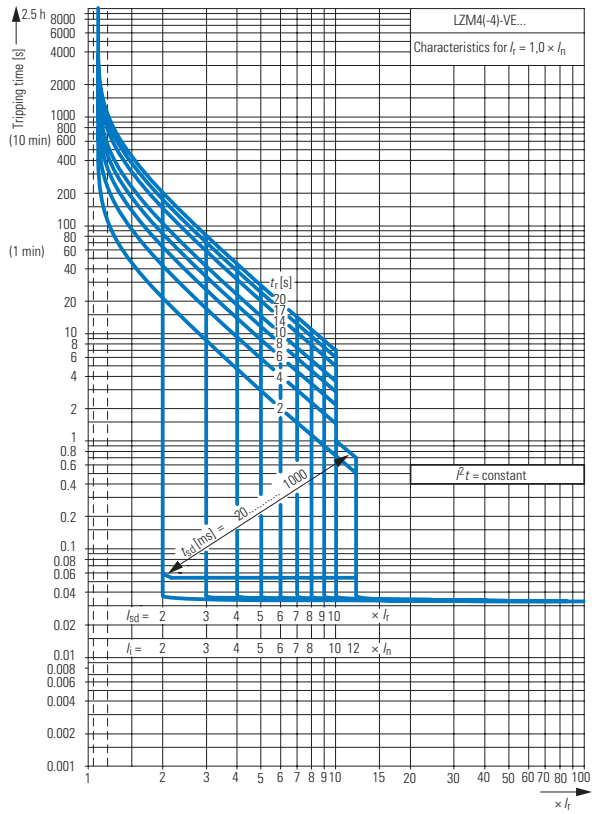


Sizes 3, 4: tripping characteristics LZM3, LZM4

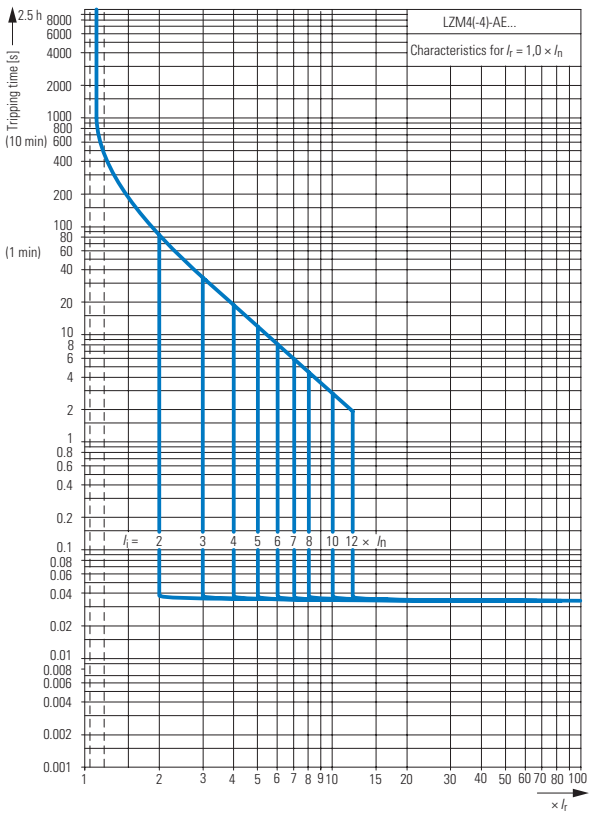
Systems, cable, selectivity and generator protection with LZM3



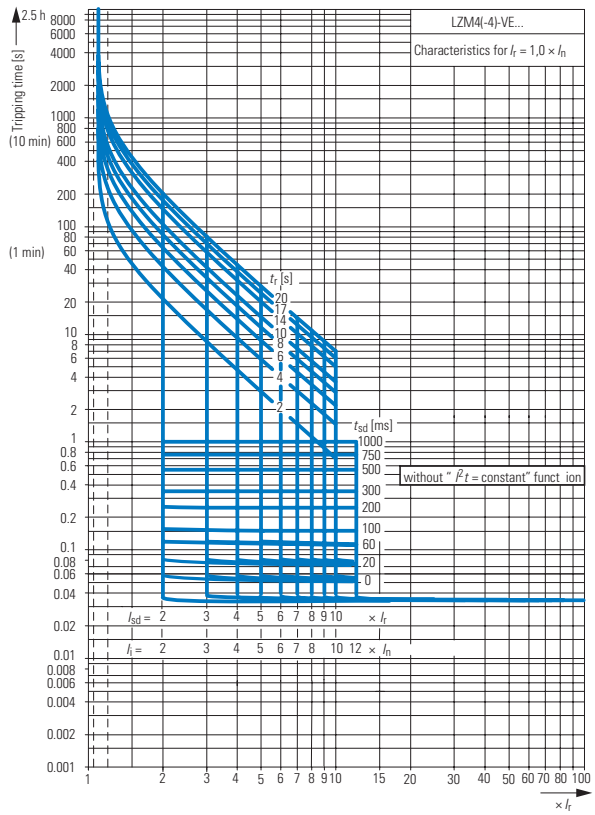
Systems, cable, selectivity and generator protection with NZM4



System and line protection with LZM4

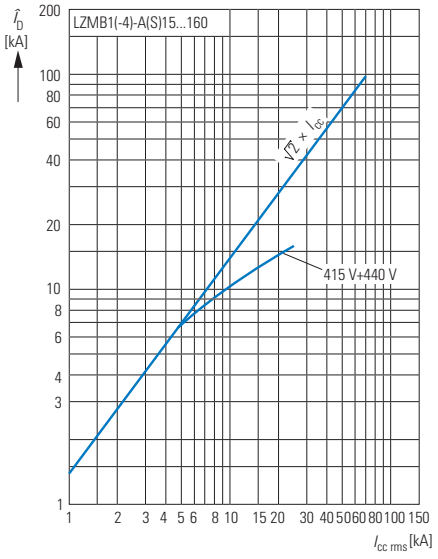


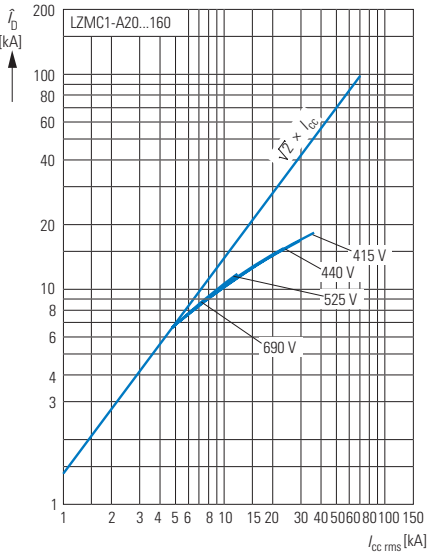
Systems, cable, selectivity and generator protection with LZM4

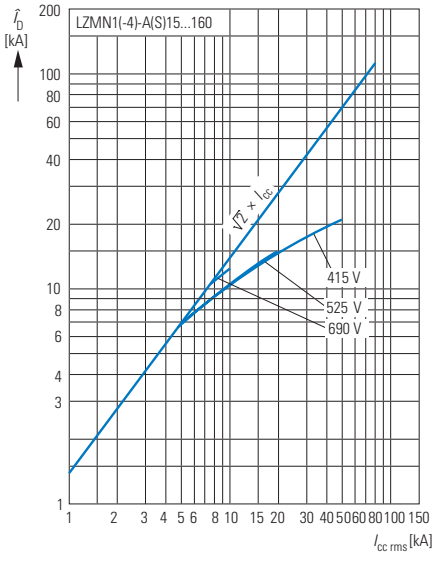


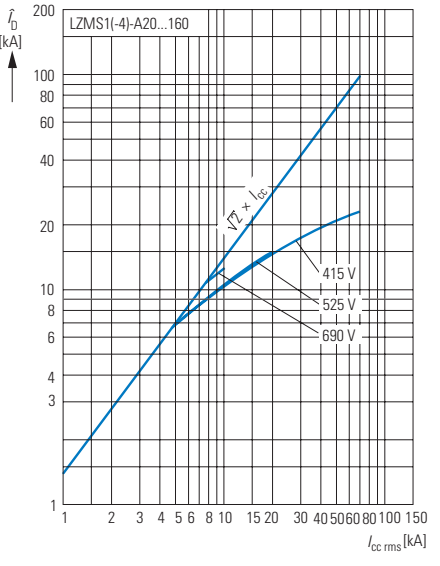
Frame size 1: let-through characteristics LZM1

Let-through current $\hat{I}D$



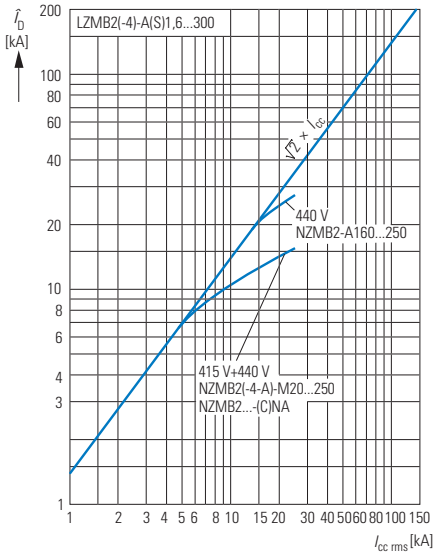


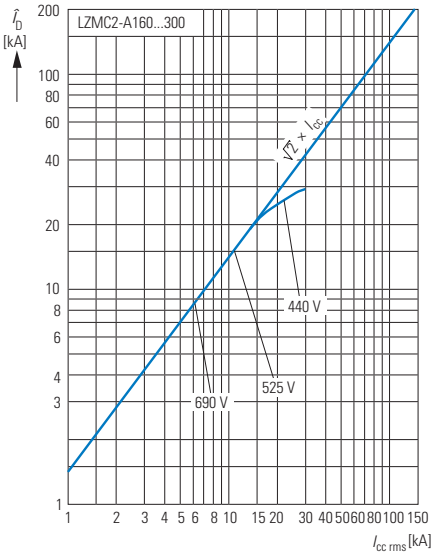


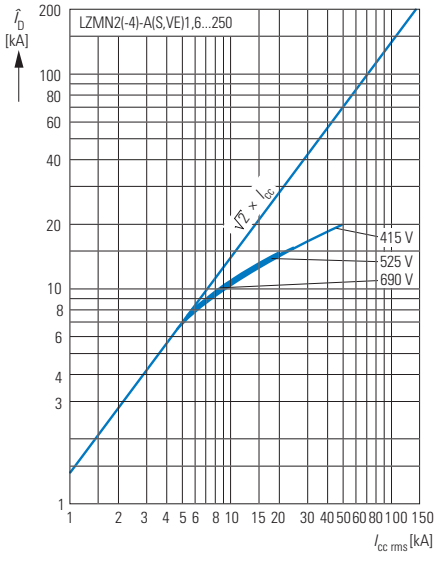


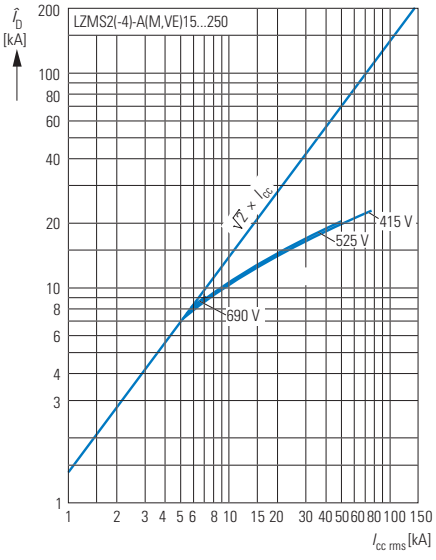
Frame size 2: let-through characteristics LZM2

Let-through current $\hat{I}$D



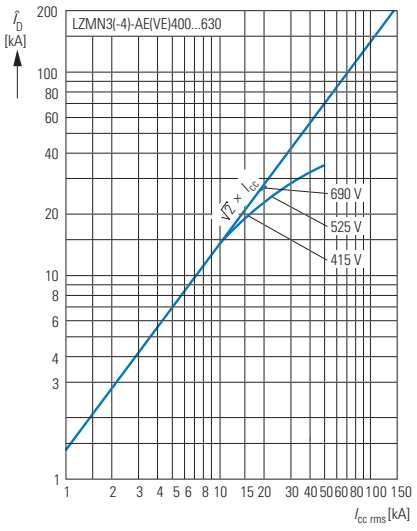


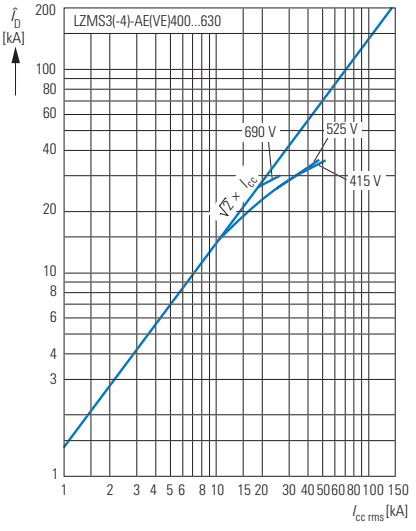




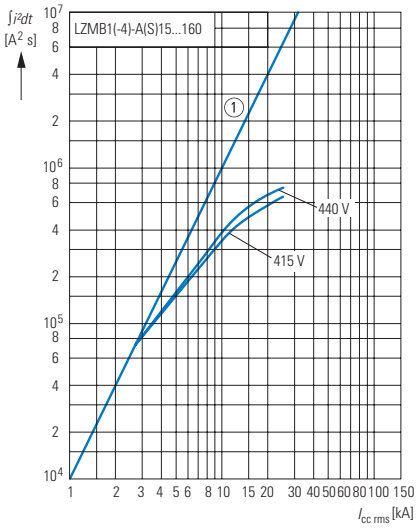
Sizes 1, 3: let-through characteristics LZM1, LZM3

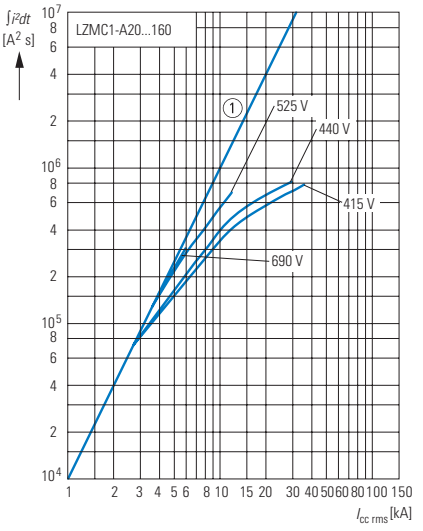
Let-through current $\hat{I}$D

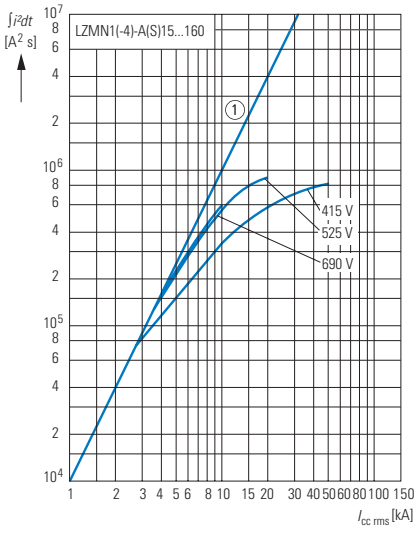


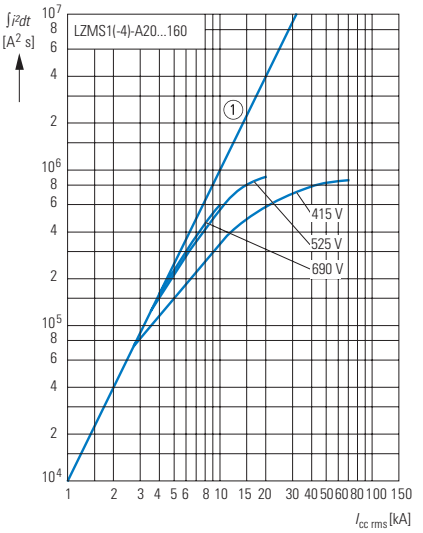


Let-through energy I^2t







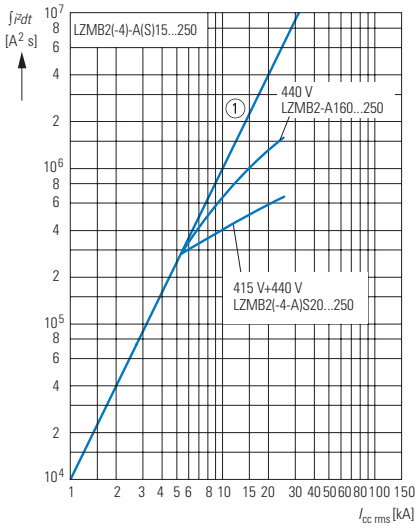


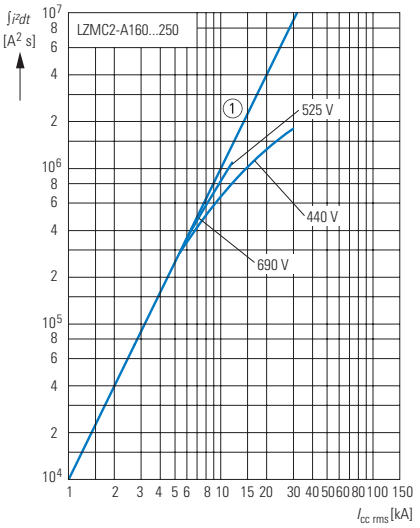
① 1 half-cycle

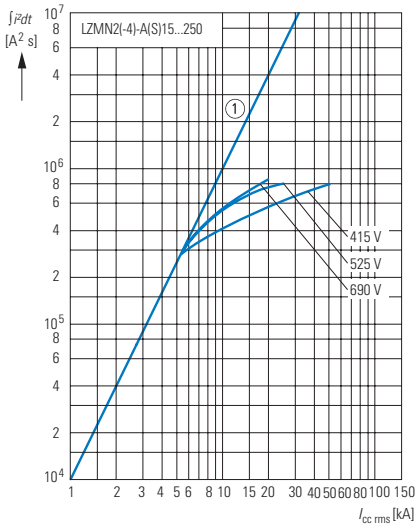
① 1 half-cycle

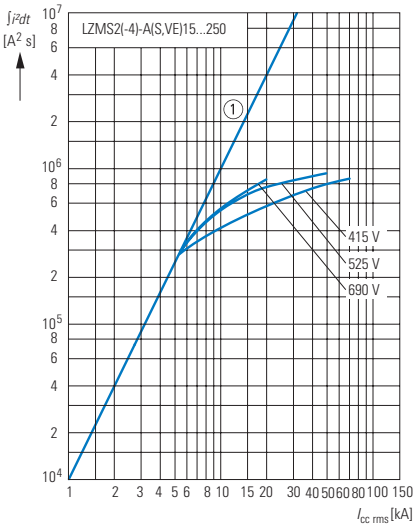
Sizes 2, 3: let-through characteristics LZM2, LZM3

Let-through energy I^2t

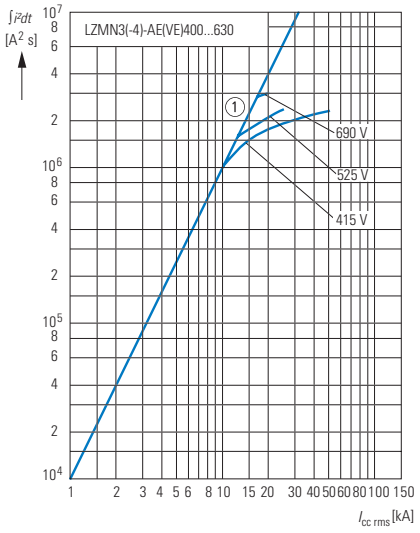


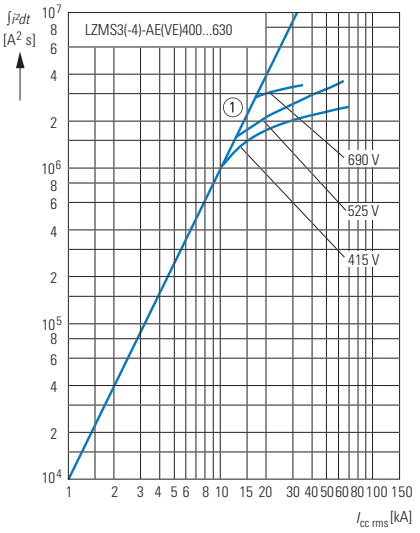






① 1 half-cycle





① 1 half-cycle

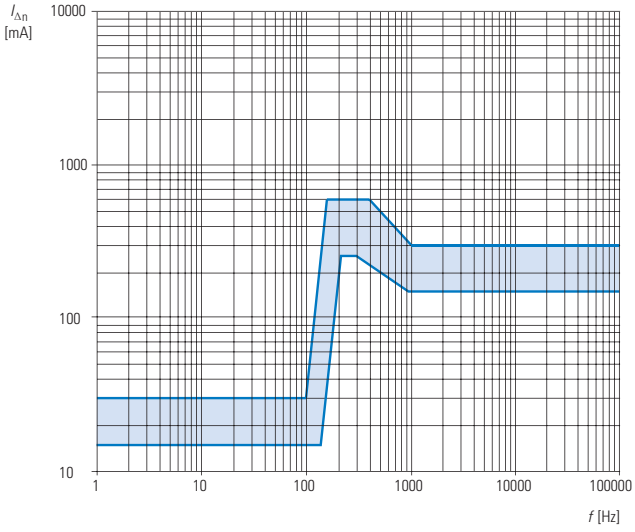
① 1 half-cycle

Frame size 2: residual-current release frequency response NZM2-4-XFIA

Frequency response

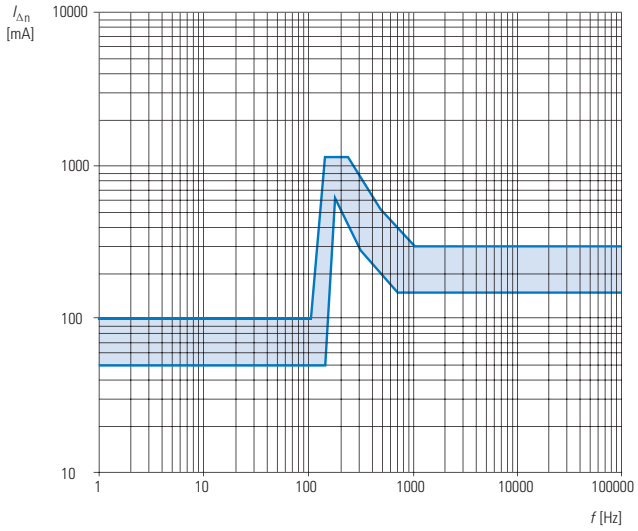
NZM2-4-XFIA30

30 mA



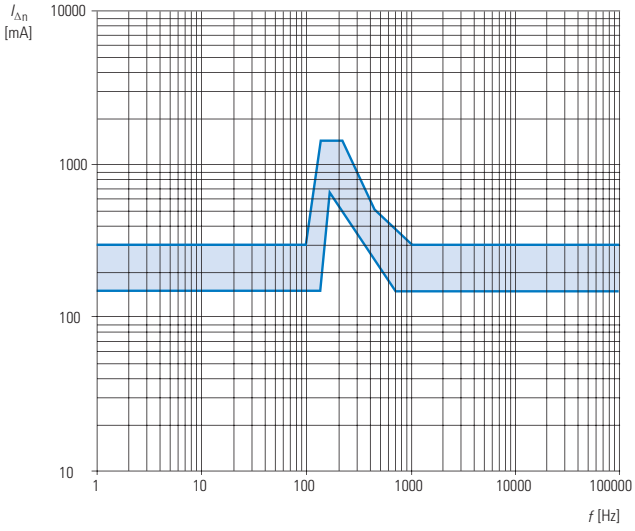
NZM2-4-XFIA

100 mA

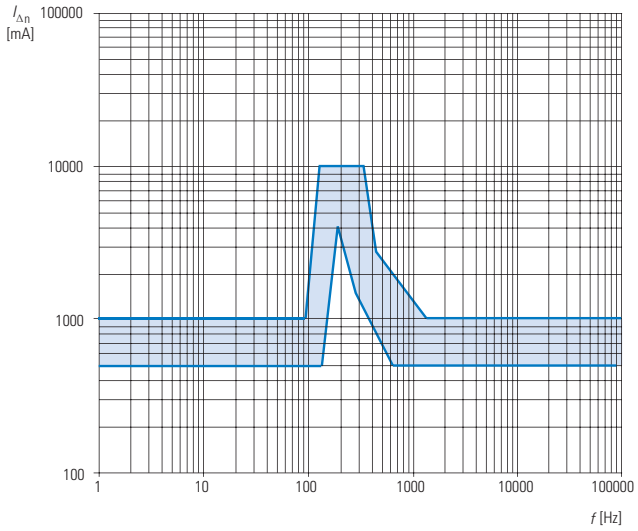


NZM2-4-XFIA

300 mA



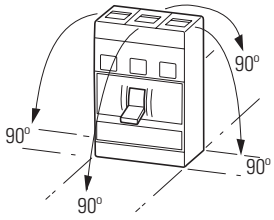
1000 mA

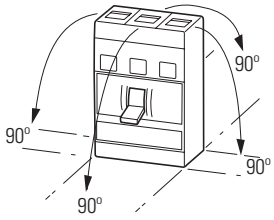


Circuit-breakers LZM

Technical data

Circuit-breakers LZM…1, LZM…2, LZM…3, LZM…4

			Rated uninterrupted current max. 160 A			
			LZMB1	LZMC1	LZMN1	LZMS1
General						
Standards			IEC/EN 60947, CCC			
Protection against direct contact			Finger and back of hand proof to VDE 0106 Part 100			
Climatic proofing			Damp heat, constant, according to IEC 60068-2-78 Damp heat, cyclical to IEC 60068-2-30			
Ambient temperature						
Storage		°C	–25…+70			
Operation		°C	–25…+70			
Mechanical shock resistance (IEC/EN 60068-2-27)			20 (half-sinusoidal shock 20 ms)			
Safe isolation to VDE 0106 Part 101 and Part 101/A1						
Between auxiliary contacts and main contacts		V AC	500			
between the auxiliary contacts		V AC	300			
Mounting position			Vertical and 90° in all directions  		With residual-current release LZM1: Vertical and 90° in all directions	
Direction of incoming supply			As required			
Degree of protection						
Device			In the operating controls area: IP20 (basic degree of protection)			
Enclosures			With insulating surround: IP40, with door coupling rotary handle: IP66			
Terminals			Tunnel terminal: IP10 Phase isolator and strip terminal: IP00			
Circuit-breakers						
Rated impulse withstand voltage U_{imp}						
Main contacts		V	6000	6000	6000	6000
Auxiliary contacts		V	6000	6000	6000	6000
Rated operational voltage	U_e	V AC	690	690	690	690
Overvoltage category/pollution degree			III/3	III/3	III/3	III/3
Rated insulation voltage	U_i	V	690	690	690	690
For use in IT electrical power networks		V	440	690	690	690

Rated uninterrupted current max. 250 A				Rated uninterrupted current max. 630 A			Rated uninterrupted current max. 1600 A	
LZMB2	**LZMC2**	**LZMN2**	**LZMS2**	**LZMC3**	**LZMN3**	**LZMS3**	**LZMN4**	**LZMS4**
IEC/EN 60947, CCC								
Finger and back of hand proof to VDE 0106 Part 100								
Damp heat, constant, according to IEC 60068-2-78 Damp heat, cyclical to IEC 60068-2-30								
–25…+70								
–25…+70								
20 (half-sinusoidal shock 20 ms) NZM4: (half-sinusoidal shock 11 ms)								
500								
300								
Vertical and 90° in all directions								
				With plug-in adapter LZM2: vertical, 90° right/left With withdrawable unit, LZM3: vertical, 90° left, LZM4: vertical, with remote operator: LZM2, LZM3, LZM4: vertical and 90° to all directions		with residual current release, LZM2: vertical and 90° to all directions		
As required								
In the operating controls area: IP20 (basic degree of protection)								
With insulating surround: IP40, with door coupling rotary handle: IP66								
Tunnel terminal: IP10 Phase isolator and strip terminal: IP00								
8000	8000	8000	8000	8000	8000	8000	8000	8000
6000	6000	6000	6000	6000	6000	6000	6000	6000
440	690	690	690	690	690	690	690	690
III/3	III/3	III/3	III/3	III/3	III/3	III/3	III/3	III/3
690	690	1000	690	690	1000	1000	1000	1000
440	690	690	690	690	690	690	525	525

Circuit-breakers LZM

Technical data

Circuit-breakers LZM…1, LZM…2, LZM…3, LZM…4

					Rated uninterrupted current max. 160 A			
					LZMB1	LZMC1	LZMN1	LZMS1
Switching capacity								
Rated short-circuit making capacity								
240 V			I_{cm}	kA	63	121	187	220
400/415 V			I_{cm}	kA	53	76	105	220
440 V			I_{cm}	kA	53	63	74	74
525 V			I_{cm}	kA	–	24	40	40
690 V			I_{cm}	kA	–	14	17	17
Rated short-circuit breaking capacity I_{cn}								
I_{cu} to IEC/EN 60947 operating sequence O-t-CO		240 V 50/60 Hz	I_{cu}	kA	30	55	85	100
		400/415 V 50/60 Hz	I_{cu}	kA	25	36	50	100
		440 V 50/60 Hz	I_{cu}	kA	25	30	35	35
		525 V 50/60 Hz	I_{cu}	kA	–	12	20	20
		690 V 50/60 Hz	I_{cu}	kA	–	8	10	10
I_{cu} to IEC/EN 60947 operating sequence O-t-CO-t-CO		240 V 50/60 Hz	I_{cs}	kA	30	55	85	100
		400/415 V 50/60 Hz	I_{cs}	kA	25	36	50	50
		440 V 50/60 Hz	I_{cs}	kA	18.5	22.5	35	35
		525 V 50/60 Hz	I_{cs}	kA	–	6	10	10
		690 V 50/60 Hz	I_{cs}	kA	–	4	7.5	7.5
Maximum low-voltage h.b.c. fuse [9]				A gG/gL	LZM.1-…20…100: 200 LZM.1-…125, 160: 315			
Utilization category to IEC/EN 60947-2					A	A	A	A
Rated short-time withstand current								
t = 0.3 s			I_{cw}	kA	–	–	–	–
t = 1 s			I_{cw}	kA	–	–	–	–
Rated making and breaking capacity								
Rated operational curr	AC-1	400/415 V 50/60 Hz	I_e	A	160	160	160	160
		690 V 50/60 Hz	I_e	A	160	160	160	160
	AC-3	400/415 V 50/60 Hz	I_e	A	160	160	160	160
		690 V 50/60 Hz	I_e	A	160	160	160	160
Lifespan, mechanical			Operations		20000	20000	20000	20000
Maximum operating frequency								
Max. operating frequency				Ops/h	120	120	120	120
Lifespan, electrical								
	AC-1	400/415 V 50/60 Hz	Operations		10000 [8]	10000	10000	10000
		690 V 50/60 Hz	Operations		–	7500	7500	7500
	AC-3 [4]	400/415 V 50/60 Hz	Operations		–	–	7500	7500
		690 V 50/60 Hz	Operations		–	–	5000	5000
Current heat loss per pole at I_u [6]				W	16.7	16.7	16.7	16.7
Total opening delay at short-circuit				ms	< 10	< 10	< 10	< 10

Notes

[2] For AC-3 rated operational current with LZM4 the following applies: 400 V: max. 650 kW; 690 V: max. 600 kW

[4] For 3-pole system protection circuit-breaker the AC-3 specification is not applicable

[6] For current heat loss per pole the specification refers to the maximum nominal current of the frame size.

[7] For 3-pole system protection circuit-breaker the following applies: 400/415 V 7500 switching operations

[8] Maximum back-up fuse, if the expected short-circuit currents at the installation location exceed the switching capacity of the circuit-breaker.

[9] ≦ 1600 A

Rated uninterrupted current max. 300 A				Rated uninterrupted current max. 630 A			Rated uninterrupted current max. 1600 A	
LZMB2	**LZMC2**	**LZMN2**	**LZMS2**	**LZMC3**	**LZMN3**	**LZMS3**	**LZMN4**	**LZMS4**
63	121	187	220	121	187	220	105	275
53	76	105	154	76	105	154	105	187
53	63	74	143	63	74	143	74	187
–	24	53	76	24	53	76	53	143
–	9	40	53	14	40	53	40	105
30	55	85	100	55	85	100	50	125
25	36	50	70	36	50	70	50	85
25	30	35	65	30	35	65	35	85
–	12	25	35	12	25	35	25	65
–	8	20	20	8	20	25	20	50
30	55	85	100	55	85	100	37	63
25	36	50	70	36	50	70	37	43
18.5	22.5	35	65	22.5	35	65	26	43
–	6	25	36	9	13	18	19	49
–	4	5	5	4	5	6	15	37
355	355	355	355	LZMN3-…400: 400 LZMN3-…630: 630			LZMN4-…800…1250: 2 × 630 LZMN4-…1600: 2 × 800	
A	A	A	A	A	A	A	B	B
–	–	1.9	1.9	3.3	3.3	3.3	19.2	19.2
–	–	1.9	1.9	3.3	3.3	3.3	19.2	19.2
250	250	250	250	500	630	630	2000	2000
250	250	250	250	500	630	630	2000	2000
250	250	250	250	500	630	630	1600 [2)]	1600 [2)]
250	250	250	250	500	630	630	1600 [2)]	1600 [2)]
20000	20000	20000	20000	15000	15000	15000	10000	10000
120	120	120	120	60	60	60	60	60
10000 [8)]	10000	10000	10000	5000	5000	5000	3000	3000
–	7500	7500	7500	3000	3000	3000	2000	2000
6500 [4)]	–	6500	6500	2000	2000	2000	2000	2000
–	5000	5000	5000	2000	2000	2000	1000	1000
19	19	19	19	31	40	40	97	97
< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 25 ≦ 415 V; < 35 > 415 V	< 25 ≦ 415 V; < 35 > 415 V

Circuit-breakers LZM

Technical data

Temperature influence

Device Type	Release type	Response values of the overload release at temperatures deviating from the reference temperatures Temperature compensation coefficient 20 °C	30 °C	40 °C	50 °C	60 °C	65 °C	70 °C
Thermomagnetic release (TM)								
System protection		Protection of systems (reference temperature 40 °C)						
LZM...1(-4)-A15…80	TM	1.14	1.07	1	0.93	0.86	0.83	0.79
LZM...1(-4)-A90…125	TM	1.14	1.07	1	0.93	0.86	0.83	0.79
LZM...1(-4)-A160	TM	1.08	1.04	1	0.96	0.92	0.90	0.88
LZM...2(-4)-A15…200	TM	1.04	1.02	1	0.98	0.96	0.95	0.94
LZM...2(-4)-A250	TM	1.04	1.02	1	0.98	0.96	0.95	0.94
LZM...2(-4)-A20…200 +XSV	TM with XSV	1.04	1.02	1	0.98	0.96	0.95	0.94
LZM...2(-4)-A250 + XSV	TM with XSV	1.04	1.02	1	0.98	0.96	0.95	0.94
Short-circuit / motor protection		Motor protection (reference temperature 20 °C)						
LZM...1-S40…80	TM	1	0.98	0.95	0.93	0.90	0.89	0.88
LZM...1-S100	TM	1	0.98	0.95	0.93	0.90	0.89	0.88
LZM...2-S20…200	TM	1	0.98	0.96	0.94	0.92	0.91	0.90
LZM...2-S20…200 +XSV	TM with XSV	1	0.98	0.96	0.94	0.92	0.91	0.90

Notes With temperatures which deviate from the reference temperature, a slight change of the overload protection properties occurs. In order to determine the release time using the tripping characteristics the temperature compensation coefficient in accordance with the table must be considered.

Example: An LZM1-A100 is calibrated for a reference temperature of 40 °C.
What happens when it is operated at an ambient temperature of 60 °C ?
At 60 °C, the temperature compensation coefficient of 0.86 results in a reduced operating current of I_r = 100 A × 0.86 = 86 A. In other words at an ambient temperature of 60 °C the LZM1-A100 trips as if it were set to 86 A.

Temperature influence

Device Type	Release type	Reduction of the rated operational curre nt (derating) under particular ambient conditions (according to IEC 947) Derating coefficient 20 °C	30 °C	40 °C	50 °C	60 °C	65 °C	70 °C
Thermomagnetic release (TM)								
System protection		Protection of systems (reference temperature 40 °C)						
LZM...1(-4)-A15…80	TM	1	1	1	1	1	1	1
LZM...1(-4)-A90…125	TM	1	1	1	1	0.86	0.83	0.8
LZM...1(-4)-A160	TM	1	1	1	0.95	0.9	0.85	0.8
LZM...2(-4)-A15…200	TM	1	1	1	1	1	1	1
LZM...2(-4)-A250	TM	1	1	1	1	0.9	0.85	0.8
LZM...2(-4)-A20…200 +XSV	TM with XSV	1	1	1	1	1	1	1
LZM...2(-4)-A250 + XSV	TM with XSV	1	0.97	0.92	0.87	0.81	–	–
Short-circuit / motor protection		Motor protection (reference temperature 20 °C)						
LZM...1-S40…80	TM	1	1	1	1	1	1	1
LZM...1-S100	TM	1	1	1	1	0.86	0.83	0.8
LZM...2-S20…200	TM	1	1	1	1	1	1	1
LZM...2-S20…200 +XSV	TM with XSV	1	1	1	1	1	1	1

Notes The derating coefficient must be considered in accordance with the following table in order to determine the maximum permissible current loading at different ambient temperatures.

Example: An LZM2-A250 should be operated at an ambient temperature of 65 °C.
How high is the permissible rated operational current I_e?
At 65 °C the derating coefficient is 0.85, this means I_e = 250 A × 0.85 = 212.5 A.
The LZM2-A250 may be operated at an ambient temperature of 65 °C with a maximum I_e = 212.5 A.

Part no.	Weight kg
Circuit-breaker	
LZM...1-...	1.046
LZM...1-4-...	1.325
LZM...2-...	2.345
LZM...2-4-...	3.5
LZM...3-...	6.34
LZM...3-4-...	8.4
LZM...4-...	21
LZM...4-4-...	27

Part no.	Weight kg
Plug-in adapter elements	
+ NZM2-XSV	4.7
+ NZM2-4-XSV	5.9
Withdrawable unit	
+ NZM3-XAV	21
+ NZM3-4-XAV	27
+ NZM4-XAV	52
+ NZM4-4-XAV	65

Temperature influence

Device Type	Release type	Reduction of the rated operational current (derating) under particular ambient conditions (according to IEC 947) Derating coefficient						
		20 °C	30 °C	40 °C	50 °C	60 °C	65 °C	70 °C
Electronic release (E)								
System protection								
LZM...3(-4)-AE400...500	E	1	1	1	1	1	1	1
LZM...3(-4)-AE550...630	E	1	1	1	1	0.9	0.85	0.8
LZM...3(-4)-AE400 + XAV	E with XAV	1	1	1	1	1	1	1
LZM...3(-4)-AE630 + XAV	E with XAV	0.96	0.92	0.87	0.83	0.78	0.75	0.73
LZM...4(-4)-AE600...1250	E	1	1	1	1	1	1	1
LZM...4(-4)-AE1600	E	1	1	1	1	0.87	0.85	0.82
LZM...4(-4)-AE800...1250 + XAV	E with XAV	1	1	1	1	1	1	1
LZM...4(-4)-AE1600 + XAV	E with XAV	1	0.98	0.93	0.89	0.85	0.83	0.8
Systems protection, cable protection, selectivity and generator protection								
LZM...3(-4)-VE400...500	E	1	1	1	1	1	1	1
LZM...3(-4)-VE550...630	E	1	1	1	1	0.9	0.85	0.8
LZM...3(-4)-VE400 + XAV	E with XAV	1	1	1	1	1	1	1
LZM...3(-4)-VE630 + XAV	E with XAV	0.96	0.92	0.87	0.83	0.78	0.75	0.73
LZM...4(-4)-VE600...1250	E	1	1	1	1	1	1	1
LZM...4(-4)-VE1600	E	1	1	1	1	0.87	0.85	0.82
LZM...4(-4)-VE630...1250 + XAV	E with XAV	1	1	1	1	1	1	1
LZM...4(-4)-VE1600 + XAV	E with XAV	1	0.98	0.93	0.89	0.85	0.83	0.8

Notes The derating coefficient must be considered in accordance with the following table in order to determine the maximum permissible current loading at different ambient temperatures.

Example: An LZM3-VE630 should be operated at an ambient temperature of 65 °C.
How high is the permissible rated operational current I_e?
At 65 °C the derating coefficient is 0.85, this means I_e = 630 A × 0.85 = 535.5 A.
The LZM3-VE630 may be operated at an ambient temperature of 65 °C with a maximum I_e = 535.5 A.

Effective power loss LZM1, LZM2

LZM up to 250 A with thermomagnetic release (3 and 4 pole)

	Fixed mounting				**Fixed mounting**			
	LZM1-				**LZM2-**			
	A...		**S...**		**A...**		**S...**	
I_n [A]	P [W]	R [µOhm]	P [W]	R [µOhm]	P [W]	R [µOhm]	P [W]	R [µOhm]
1.2	–	–	–	–	–	–	–	–
1.6	–	–	–	–	–	–	–	–
2	–	–	–	–	–	–	–	–
2.4	–	–	–	–	–	–	–	–
3	–	–	–	–	–	–	–	–
5	–	–	–	–	–	–	–	–
8	–	–	–	–	–	–	–	–
12	–	–	–	–	–	–	–	–
15	–	–	–	–	–	–	–	–
18	–	–	–	–	–	–	–	–
20	9.8	8180	–	–	5.1	4250	5.1	4250
25	8.8	4680	–	–	8	4250	8	4250
26	–	–	–	–	–	–	–	–
30	–	–	–	–	–	–	–	–
32	9.1	3030	–	–	10	3140	10	3140
33	–	–	–	–	–	–	–	–
35	–	–	–	–	–	–	–	–
40	11	2220	13.5	2810	13	2800	13	2800
45	–	–	–	–	–	–	–	–
50	13.5	1760	15	1880	18	2270	18	2270
60	–	–	–	–	–	–	–	–
63	14	1190	16.7	1250	20	1700	20	1700
70	–	–	–	–	–	–	–	–
80	15.5	850	21.1	1085	22	1070	22	1070
90	–	–	–	–	–	–	–	–
100	24	730	25	795	28	855	28	855
110	–	–	–	–	–	–	–	–
125	38	570	–	–	29	589	29	589
150	–	–	–	–	–	–	–	–
160	50	460	–	–	40	427	40	427
175	–	–	–	–	–	–	–	–
200	–	–	–	–	48	332	48	332
225	–	–	–	–	–	–	–	–
250	–	–	–	–	57	310	–	–

Note: The values stated in the table apply for 3 and 4 pole fixed mounted devices with an equal load distribution.
On 4 pole devices the current in the N-conductor is equal to zero.
The total resistive load is the measured value for a 3 pole or a 4 pole switch.
The total heat dissipation is the value measured at I_n, 50/60Hz for a 3 pole or 4 pole switch.
The heat dissipation can be calculated with the formula: $P = 3 \times R \times I^2$

Effective power loss LZM1, LZM2

LZM up to 1600 A with electronic release (3 and 4 pole)

Fixed mounting	**Supplementary Plug-in units**	**Fixed mounting**	**Supplementary Withdrawable units**	**Fixed mounting**	**Supplemementary Withdrawable units**
LZM2-		**LZM3**		**LZM4**	
R [µOhm]	R [µOhm]	R [µOhm]	R [µOhm]	R [µOhm]	R [µOhm]
275	100	100	70	37	10

Note: The values stated in the table apply for 3 and 4 pole devices with an equal load distribution.
On 4 pole devices the current in the N-conductor is equal to zero.
The total resistive load is the measured value for a 3 pole or a 4 pole switch
(independent of I_n and the type of release).
The total resistive load for a plug-in or withdrawable switch results from:
the resistive value for fixed mounted + resistive value for plug-in or withdrawable.
The heat dissipation can be calculated with the formula: $P = 3 \times R \times I^2$

Circuit-breakers LZM

Technical data

Terminal capacities LZM

					LZM1 160 A	I_n [1] A	LZM2 250 A	I_n [1] A
Terminal capacities								
Standard equipment					Box terminal		Screw terminal	
Accessories					Screw connection Tunnel terminal Connection on rear		Box terminal Tunnel terminal Connection on rear	
Rated power of coil								
Box terminal	Solid			mm²	1 × (10 – 16) 2 × (6 – 16)	160	1 × (4 – 16) 2 × (4 – 16)	250
	Stranded			mm²	1 × (25 – 70) 2 × 25	160	1 × (25 – 185) 2 × (25 – 70)	250
Tunnel terminal	Solid			mm²	1 × 16	160	1 × 16	250
	Stranded	Single hole		mm²	1 × (25 – 95)	160	1 × (25 – 185)	250
		Double hole fitting		mm²	–	–	–	–
		4 hole		mm²	–	–	–	–
Bolt terminal and rear-side connection								
Direct on the switch	Solid			mm²	1 × (10 – 16) 2 × (6 – 16)	160	1 × (4 – 16) 2 × (4 – 16)	250
	Stranded			mm²	1 × (25 – 70)[3] 2 × 25	160	1 × (25 – 185) 2 × (25 – 70)	250
Module plate	Single hole	min.		mm²	–	–	–	–
		max.		mm²	–	–	–	–
Module plate	Double hole	min.		mm²	–	–	–	–
		max.		mm²	–	–	–	–
Connection width extension				mm²				
Al conductors, Al cable								
Tunnel terminal	Solid Stranded			mm²	1 × 16	160	1 × 16	250
		Single hole		mm²	1 × (25 – 95)	160	1 × (25 – 185)[2]	250
		Double hole fitting		mm²	–	–	–	–
		4-hole		mm²	–	–	–	–
Bolt terminal and rear-side connection								
Direct on the switch	Solid			mm²	1 × (10 – 16) 2 × (10 – 16)	160	1 × (10 – 16) 2 × (10 – 16)	250
	Stranded			mm²	1 × (25 – 35) 2 × (25 – 35)	160	1 × (25 – 50) 2 × (25 – 50)	250
Module plate	Single hole	min.		mm²	–	–	–	–
	Single hole	max.		mm²	–	–	–	–
Module plate	Double hole			mm²	–	–	–	–
Connection width extension				mm²				
Cu strip (number of segments x width x segment thickness)								
Box terminal		min.		mm	2 × 9 × 0.8	160	2 × 9 × 0.8	250
		max.		mm	9 × 9 × 0.8	160	10 × 16 × 0.8	250
Flat conductor terminal		min.		mm				
		max.		mm				
Module plate	Single hole			mm	–	–	–	–
Bolt terminal and rear-side connection								
Flat copper strip, with holes		min.		mm			2 × 16 × 0.8	250
Flat copper strip, with holes		max.		mm			10 × 16 × 0.8	250
Connection width extension				mm²	–	–	–	–
Copper busbar (width × thickness)								
Bolt terminal and rear-side connection								
Screw connection					M6		M8	
Direct on the switch		min.		mm	12 × 5	160	16 × 5	250
		max.		mm	16 × 5	160	20 × 5	250
Module plate	Single hole	min.		mm	–	–	–	–
		max.		mm	–	–	–	–
Module plate	Double hole			mm	–	–	–	–
Connection width extension		min.		mm	–	–	–	–
		max.		mm	–	–	–	–

Notes

[1] The rated currents I_n have been determined conform to IEC/EN 60947 (switchgear standard) and generally relate to the max. defined cross-sections and are intended for the purpose of orientation. The engineering standards which apply in each case must be observed.

[2] depending on the cable manufacturer up to 240 mm² can be connected.

[3] depending on the cable manufacturer up to 95 mm² can be connected.

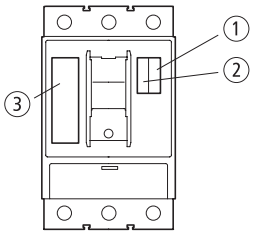
LZM3 630 A	**I_n[1] A**	**LZM4 1600 A**	**I_n[1] A**
Screw terminal Box terminal Tunnel terminal Connection on rear		Screw terminal Tunnel terminal Connection on rear Strip terminal	
2 × 16	500		
1 × (35 – 240) 2 × (25 – 120)	500		
1 × (25 – 185)	350		
1 × (50 – 240) 2 × (50 – 240)	630 2 × 185	–	–
–	–	4 × (50 – 240)	1400
1 × 16 2 × 16	630 2 × 185		
1 × (25 – 240) 2 × (25 – 240)	630 2 × 185	1 × (120 ... 16) 4 × (50 ... 185)	1250
–	–	1 × (120 – 300)	1000
–	–	2 × (95 – 300)	
–	–	2 × (95 – 185)	1400
–	–	4 × (35 – 185)	
2 × 300	630 2 x 185	4 × 300 6 × (95 – 240)	1600 4 × 240
1 × 16	350	–	–
1 × (25 – 185)[2]	350	–	–
1 × (50 – 240) 2 × (50 – 240)	630	–	–
–	–	4 × (50 – 240)	1400
1 × 16 2 × (10 – 16)	400	–	–
1 × (25 – 120) 2 × (25 – 120)	400	–	–
–	–	1 × (185 – 240)	pleaes inquire
–	–	2 × (70 – 185)	pleaes inquire
–	–	4 × 50	–
		2 × 240 6 × (70 – 240)	pleaes inquire
6 × 16 × 0.8	630	–	–
10 × 24 × 1.0 + 5 × 24 × 1.0 (2 ×) 8 × 24 × 1.0	630	–	–
		6 × 16 × 0.8	1100
		(2 ×) 10 × 32 × 1.0	
–	–	(2 ×) 10 × 50 × 1.0	1250 (2 ×) 10 × 40 × 1.0
6 × 16 × 0.8	630	(2 ×) 10 × 50 × 1.0	1600
10 × 32 × 1.0 + 5 × 32 × 1.0	630	(2 ×) 10 × 50 × 1.0	1600
(2 ×) 10 × 50 × 1.0	630	(2 ×) 10 × 80 × 1.0	1600 2 × (10 × 50 × 1.0)
M10		M10	
20 × 5	630	25 × 5	1600
30 × 10 +30 × 5	630	2 × (50 × 10) 2 × (80 × 10)	2000
–	–	25 × 5	1250
–	–	2 × (50 × 10)	2 × (40 × 10)
–	–	2 × (50 × 10)	1500
–	630	60 × 10	1600
2 × (10 × 50)	10 × 40	2 × (80 × 10)	2 × (50 × 10)

Auxiliary contacts M22-K..., XHI(V)

		at AC = 50/60 Hz		M22-K...	NZM-XHIV	NZM-XHI
Auxiliary contacts						
Rated operational voltage						
AC		U_e	V AC	500	500	500
DC		Ue	V DC	220	220	220
Conventional thermal current		$I_{th} = I_e$	A	4	4	4
Rated operational current						
AC–15	115 V	I_e	A	4	4	4
	230 V	I_e	A	4	4	4
	400 V	I_e	A	2	2	2
	500 V	I_e	A	1	1	1
DC-13	24 V	I_e	A	3	3	3
	42 V	I_e	A	1.7	1.5	–
	60 V	I_e	A	1.2	0.8	1.2
	110 V	I_e	A	0.8	0.5	0.5
	220 V	I_e	A	0.3	0.2	0.2
Short-circuit protection						
max. fuse			A gG/gL	10	10	10
Max. miniature circuit-breaker			A	PKZM0-10/FAZ-B6	FAZ-B6	FAZ-B6
Early-make time compared to the main contacts during switch on and off (switching times with manual operation)			ms		LZM1: approx. 20 LZM2: approx. 20 LZM3: approx. 20 LZM4: approx. 90 With LZM4/N(S)4 the HIV does not feature early break.	
Terminal capacities						
Solid or flexible conductor with ferrule			mm²	1 × (0.75 – 2.5) 2 × (0.75 – 2.5)	1 × (0.75 – 2.5) 2 × (0.75 – 2.5)	1 × (0.75 – 2.5) 2 × (0.75 – 2.5)
			AWG	1 × (18 – 14) 2 × (18 – 14)	1 × (18 – 14) 2 × (18 – 14)	1 × (18 – 14) 2 × (18 – 14)

Equipping with auxiliary contacts, time differences LZM…

Maximum equipment and position of the internal accessories

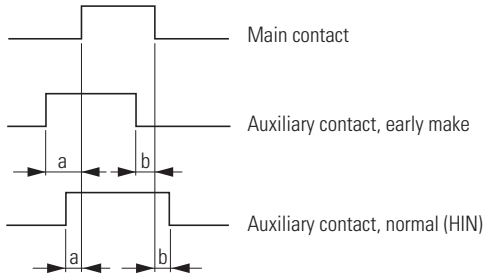


	③ -XHIV(2S) or -XA or -XU	② HIA	① HIN
LZM1	1	1	1
LZM2	1	1	2
LZM3	1	1	3
LZM4	1	2	3

Contacts per slot with HIA and HIN
1 N/O
1 N/C
2 N/O
2 N/C

N/O = normally open contact
N/C = normally closed contact

Time differences ON-OFF



	Time difference a (ms)						Time difference b (ms)					
	Manual operation			Motor operators			Manual operation			Motor operators		
	HIV	HIN		HIV	HIN		HIV	HIN		HIV	HIN	
		K10	K01		K10	K01		K10	K01		K10	K01
LZM1	20[2)]	0	2.5	–	–	–	20[2)]	0	2.5	–	–	–
LZM2	20[2)]	3.5	6.5	Not permissible	2.5	4.5	20[2)]	3	4.5	Not permissible	3	4
LZM3	20[2)]	4	8	Not permissible	2	4	20[2)]	3.5	8	Not permissible	3	6.5
LZM4	90[2)]	7	11	Not permissible	on request	on request	0[1)2)]	12	15	Not permissible	on request	on request

Notes
[1)] With LZM4/N(S)4 the HIV does
[2)] Minimum value, as it is dependent on the switching speed

Circuit-breakers LZM

Technical data

Undervoltage releases NZM…-XU

			NZM1(2/3)-XU...	NZM4-XU…
Undervoltage release				
Rated control voltage				
Alternating voltage at 50/60 Hz	U_s	V AC	24…600	24…600
DC	U_s	V DC	12…250	12…250
Operating range				
Drop-out voltage		× U_s	0.35 – 0.7	0.35 – 0.7
Pick-up voltage		× U_s	0.85 – 1.1	0.85 – 1.1
Power consumption				
AC				
Pick-up AC		VA	1.5	3.6
Sealing AC		VA	1.5	3.6
DC				
Pick-up DC		W	0.8	2.5
Sealing DC		W	0.8	2.5
Max. opening delay (response time until the main circuits open)		ms	19	23
Minimum command time		ms	10 – 15	10 … 15
Terminal capacities				
Solid or flexible conductor with ferrule		mm^2	1 × (0.75 … 2.5) 2 × (0.75 … 2.5)	1 × (0.75 … 2.5) 2 × (0.75 … 2.5)
		AWG	1 × (18 … 14) 2 × (18 … 14)	1 × (18 … 14) 2 × (18 … 14)

Undervoltage releases, off-delayed UVU-NZM

			UVU-NZM
Undervoltage releases, off-delayed			
Rated operational voltage			
Alternating voltage at 50/60 Hz	U_e	V AC	24, 220 – 550
DC	U_e	V DC	24
Inrush current (peak value)	I_e	mA	< 500
Power consumption		VA	50
Delay time	t_{sd}	ms	70 – 4000
With additional external capacitor, 90.000 µF ≧ 35 V		s	To 16
With additional external capacitor, 30.000 µF ≧ 35V		s	To 8
Terminal capacities			
Solid or flexible cond uctor with ferrule		mm^2	1 × (0.5 – 2.5) 2 × (0.5 – 1.5)

Shunt releases NZM…-XA…

			NZM1(2/3)-XA...	NZM4-XA...	NZM2/3-XA...-MNS	NZM4-XA…-MNS
Shunt release						
Rated control voltage						
AC	U_s	V AC	12…440	12…440	230	230
DC	U_s	V DC	12…440	12…440		
Frequency range		Hz	0 – 400	0 – 400	50/60	50/60
Operating range						
AC		× U_s	0.7…1.1	0.7…1.1	0.1…1.1	0.1…1.1
DC		× U_s	0.7…1.1	0.7…1.1		
Power consumption						
Pick-up AC/DC		VA/W	2.5	2.5	–	–
Sealing AC/DC		VA/W	2.5	2.5	–	–
Maximum current consumption at 110% U_s (230 V 50 Hz)		A	–	–	0.5	1
Max. opening delay (response time until the main circuits open)		ms	20	22	20	22
Duty factor		ms	∞	∞	1000 ms	1000 ms
Minimum command time		ms	10 … 15	10 … 15	10 … 15	10 … 15
Terminal capacities						
Solid or flexible conductor with ferrule		mm^2	1 × (0.75 … 2.5) 2 × (0.75 … 2.5)	1 × (0.75 … 2.5) 2 × (0.75 … 2.5)	1 × (0.75 … 2.5) 2 × (0.75 … 2.5)	1 × (0.75 … 2.5) 2 × (0.75 … 2.5)
		AWG	1 × (18 … 14) 2 × (18 … 14)	1 × (18 … 14) 2 × (18 … 14)	1 × (18 … 14) 2 × (18 … 14)	1 × (18 … 14) 2 × (18 … 14)

Capacitor units NZM-XCM

			NZM-XCM
Capacitor unit for shunt release			
Rated operational voltage	U_e	V AC	230
Rated operational current	I_e	mA	< 10
Inrush current (peak value)	I_e	A	3
Terminal capacities			
Solid or flexible conductor with ferrule		mm^2	1 × (0.5 – 2.5) 2 × (0.5 – 1.5)
		AWG	1 × (20 – 14) 2 × (20 – 16)

Remote operator NZM...-XR...

				NZM2-XR...	NZM3-XR...	NZM4-XR...
Remote operator						
Rated control voltage						
AC		U_s	V AC	110…440	110…440	110…440
DC		U_s	V DC	24…250	24…250	24…250
Operating range						
AC		U_s		0.85…1.1	0.85…1.1	0.85…1.1
DC		U_s		0.85…1.1	0.85…1.1	0.85…1.1
Motor rating						
AC	110 … 130 V AC		VA	350	350	350
	208 … 240 V AC		VA	350	350	350
	380 … 440 V AC		VA	350	350	350
DC	24 … 30 V DC		W	250	250	250
	110 … 130 V DC		W	250	250	250
	220 … 250 V DC		W	250	250	250
Rated power of coil						
AC	110 … 130 V AC		VA	270	270	270
	208 … 240 V AC		VA	270	270	270
	380 V … 440 V AC		VA	270	270	270
DC	24 … 30 V DC		W	210	210	210
	100 … 130 V DC		W	210	210	210
	220 … 250 V DC		W	210	210	210
Total make time			ms	60	80	100
Total opening delay			ms	300	1000	3000
Minimum signal duration						
with switch on			ms	30	30	30
with switch off			ms	150	250	500
Lifespan, mechanical		Operations		20000	15000	10000
Maximum operating frequency			Ops./h	120	60	20
Terminal capacities						
Solid or flexible conductor with ferrule			mm^2	0.75 … 2.5	0.75 … 2.5	0.75 … 2.5
			AWG	18 … 14	18 … 14	18 … 14

Residual-current relay PFR-...

			PFR-003	PFR-03	PFR-5
Electrical					
Standards			IEC/EN 60947-2, IEC 755, IEC 1008, IEC 1009		
Sensitivity			Pulse current sensitive, type A		
Rated control voltage	U_s	V AC	230 ±20 % (50/60 Hz)		
Motor rating	P_e	W	3	3	3
Rated fault currents	$I_{\Delta n}$	mA	0.03	0.3	0.03, 0.1, 0.3, 0.5, 1, 3, 5
Delay time	t_v	s	0.02 (non-delayed)	0.02 (non-delayed)	0.02, 0.1, 0.3, 0.5, 1, 3, 5
Relay contacts			1 integrated changeover contact	1 integrated changeover contact	1 integrated changeover contact
Rated voltage of the relay contact		V AC/DC	250/100	250/100	250/100
Rated current of the relay contact		A	6	6	6
Fault current warning		Hz	–	–	0.5 = 25% – 50% $I_{\Delta n}$ 1 = 50% – 75% $I_{\Delta n}$ 2 = 75% – 100% $I_{\Delta n}$
Mechanical					
Standard front dimension		mm	45	45	45
Device height		mm	85	85	85
Device width		mm	45	45	45
Mounting			Snap fixing, top-hat rail DIN 46277, IEC/EN 60715		
Terminals top and bottom			Box terminals		
Terminal protection			Finger/back-of-hand proof to BGV A2, VDE 106 part 100		
Terminal capacities		mm^2	2 × 0.75 – 2.5 solid, 2 × 0.75 – 1.5 flexible/with ferrules		
Sealability				–	yes

Circuit-breakers LZM

Technical data

Residual-current releases NZM…-XFI…

			NZM1(-4)-XFI30R	NZM1(-4)-XFI300R	NZM1(-4)-XFIR	NZM1(-4)-XFI30U
Electrical						
Standards			IEC/EN 60947-2	IEC/EN 60947-2	IEC/EN 60947-2	IEC/EN 60947-2
Sensitivity			Pulse current sensitive according to core-balance principle			
Min. operating voltage						
or detection of fault currents type A/AC			80 V (dependent on mains voltage)	80 V (dependent on mains voltage)	80 V (dependent on mains voltage)	80 V (dependent on mains voltage)
or detection of fault currents type B						
Suitability for the application			In three- and single-phase systems			In single-phase
Rated operational voltage	U_e	V AC	200…415 (3~)	200…415 (3~)	200…415 (3~)	200…415 (3~)
Rated frequency	f	Hz	50/60	50/60	50/60	50/60
Number of poles			3/4	3/4	3/4	3/4
Rated current range	I_n	A	15…125	15…125	15…125	15…100
Rated fault currents	$I_{\Delta n}$	A	0.03	0.3	0.03…0.1…0.3…0.5…1…3	0.03
Detection range of the fault current			50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Rated ultimate short-circuit making capacity and -rated ultimate short-circuit breaking capacity	$I_{\Delta m}$	A	= I_{CU}	= I_{CU}	= I_{CU}	= I_{CU}
Fault current warning			≧ 0.3 × $I_{\Delta n}$	≧ 0.3 × $I_{\Delta n}$	≧ 0.3 × $I_{\Delta n}$	≧ 0.3 × $I_{\Delta n}$
Mechanical shock resistance (IEC 60068-2-27)			20 (half-sinusoidal shock 20 ms)			
Lifespan, mechanical (50 % with fault current)	Operations		20000	20000	20000	20000
Mechanical						
Standard front dimension		mm	45	45	45	45
Mounting			on the right side	sidewise on the right	Bottom	Bottom
Mounting position			Vertical and 90° in all directions			
Supply			LZM1 from above	LZM1 from above	LZM1 from above	LZM1 from above
Degree of protection			IP20 in the operating component area			
Ambient temperature		°C	–5…+40	–5…+40	–5…+40	–5…+40
Sealability					yes, setting buttons	
Terminal capacity						
Flexible without ferrule		mm²	such as LZM1 standard terminal			
flexible with ferrules		mm²	such as LZM1 standard terminal			

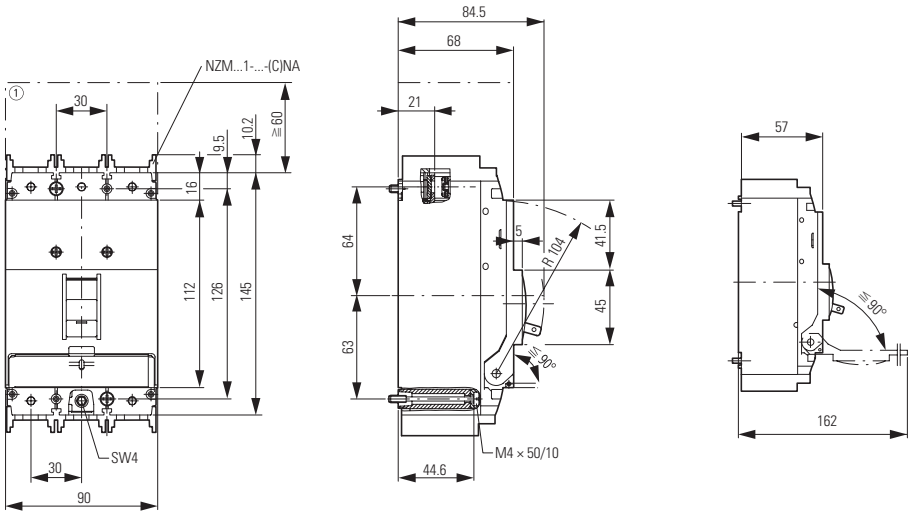
NZM1(-4)-XFI300U	NZM1(-4)-XFIU	+NZM2-4-XFI30	+NZM2-4-XFI	+NZM2-4-XFIA30	+NZM2-4-XFIA
IEC/EN 60947-2	IEC/EN 60947-2	IEC/EN 60947-2	IEC/EN 60947-2	IEC/EN 60947-2	IEC/EN 60947-2
Pulse current sensitive according to core-balance principle		Pulse current sensitive according to core-balance principle	Pulse current sensitive according to core-balance principle	Sensitive to AC/DC (type B)	Sensitive to AC/DC (type B)
80 V (dependent on mains voltage)	80 V (dependent on mains voltage)	independent of mains voltage	independent of mains voltage	0 V independent of mains voltage	0 V independent of mains voltage
				50 V (dependent on mains power)	50 V (dependent on mains voltage)
In single-phase		In three- and single-phase systems			
200…415 (3~)	200…415 (3~)	280…690	280…690	50…400 (3~)	50…400 (3~)
50/60	50/60	50/60	50/60	50/60	50/60
3/4	3/4	4	4	4 pole	4 pole
15…100	15…100	15…250	15…250	15…250	15…250
0.3	0.03…0.1…0.3… 0.5…1…3	0.03	0.1…0.3…1…3	0.03	0.1…0.3…1
50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	with AC voltage: 0 – 100 kHz with pulsed DC voltage: 50 Hz	with AC voltage: 0 – 100 kHz with pulsed DC voltage: 50 Hz
= I_{CU}	= I_{CU}	= I_{CU}	= I_{CU}	= I_{CU}	= I_{CU}
≧ 0.3 × $I_{\Delta n}$	≧ 0.3 × $I_{\Delta n}$	–	–	–	–
20 (half-sinusoidal shock 20 ms)					
20000	20000	≧ 2000	≧ 2000	≧ 2000	≧ 2000
45	45	96	96	96	96
Bottom	Bottom	Bottom	Bottom	Bottom	Bottom
Vertical and 90° in all directions					
LZM1 from above	LZM1 from above	As required	As required	Bottom	Bottom
IP20 in the operating component area					
–5…+40	–5…+40	–25…+70	–25…+70	–25…+70	–25…+70
	yes, setting buttons			yes, setting buttons	yes, setting buttons
such as LZM1 standard terminal		with LZM2 standard connection			
such as LZM1 standard terminal		with LZM2 standard connection			

Circuit-breakers LZM

Dimensions

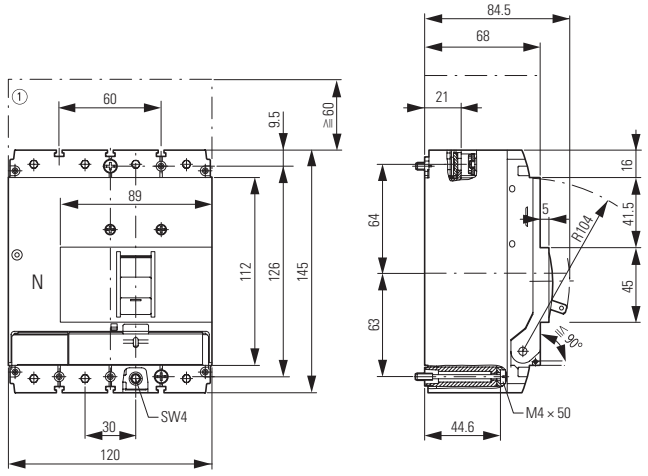
Size 1: basic units LZM1

Circuit-breaker
3 pole
LZMB1
LZMC1
LZMN1
LZMS1



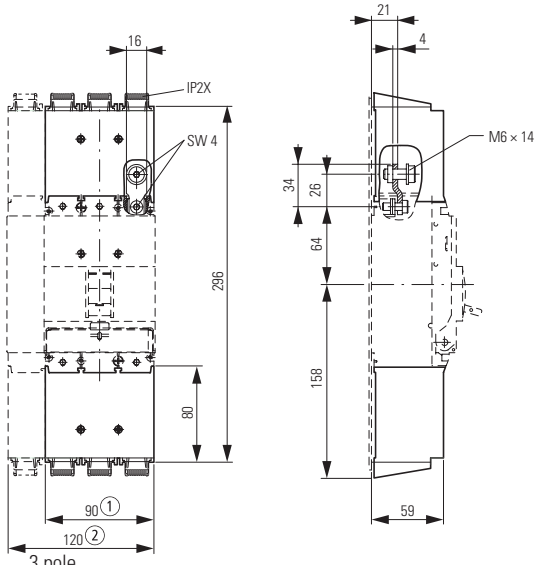
① Blow out area, minimum clearance to other parts ≧ 60 mm

Circuit-breaker
4 pole
LZMB1-4
LZMC1-4
LZMN1-4
LZMH1-4



① Blow out area, minimum clearance to other parts ≧ 60 mm

Covers
NZM1(-4)-XKSA
Screw connection
NZM1(-4)-XKS
IP2X protection against contact with a finger for shroud
NZM1(-4)-XIPA
Screw connection

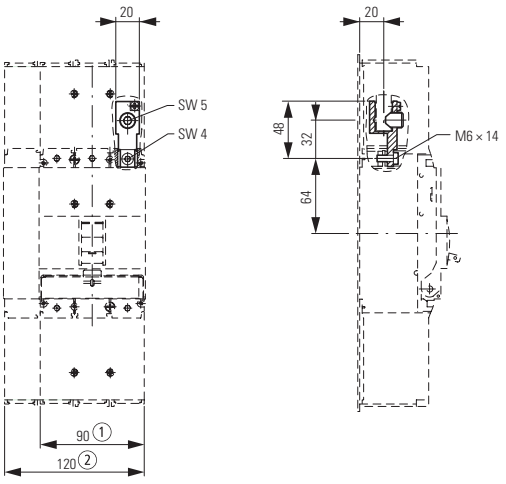


① 3 pole
② 4 pole

Size 1: accessories NZM1…-XK…, NZM1…XIPK, NZM-XSTK

Tunnel terminal

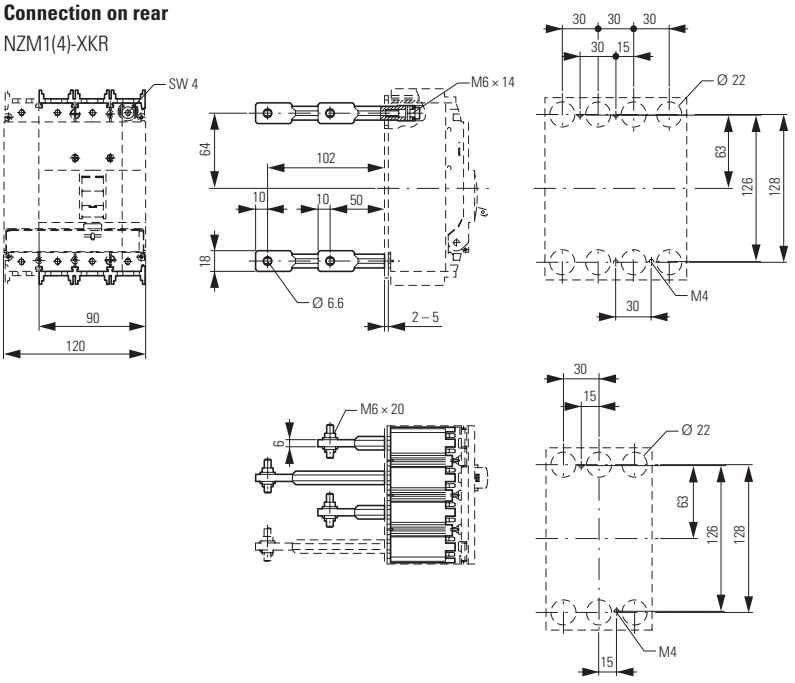
NZM1(-4)-XKA



① 3 pole
② 4 pole

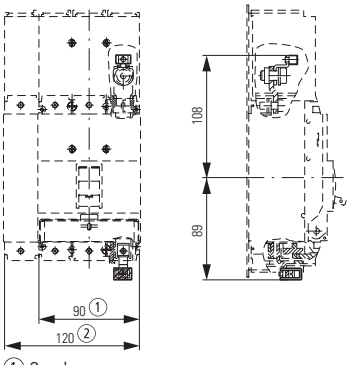
Connection on rear

NZM1(4)-XKR



Control circuit terminal

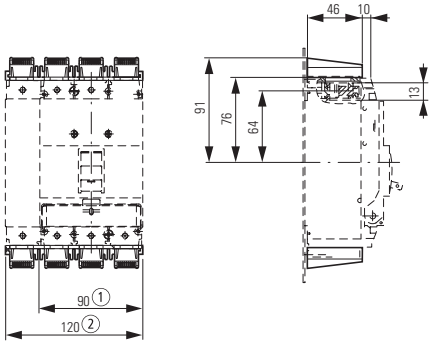
NZM1-XIPK, NZM-XSTK



① 3 pole
② 4 pole

IP2X protection against contact with a finger

NZM1(-4)-XIPK



Circuit-breakers LZM

Dimensions

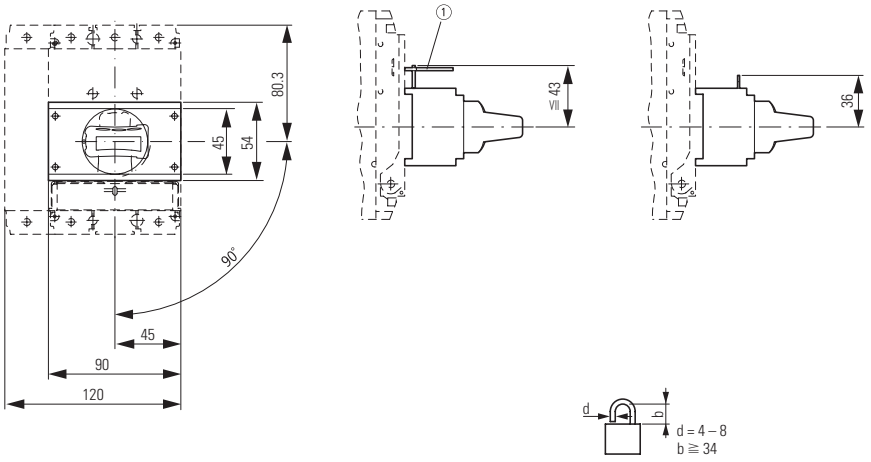
Size 1: accessories NZM1-XDV..., NZM1-XTVD...

Rotary drive

Rotary handle on circuit-breaker

NZM1-XDV
NZM1-XDVR

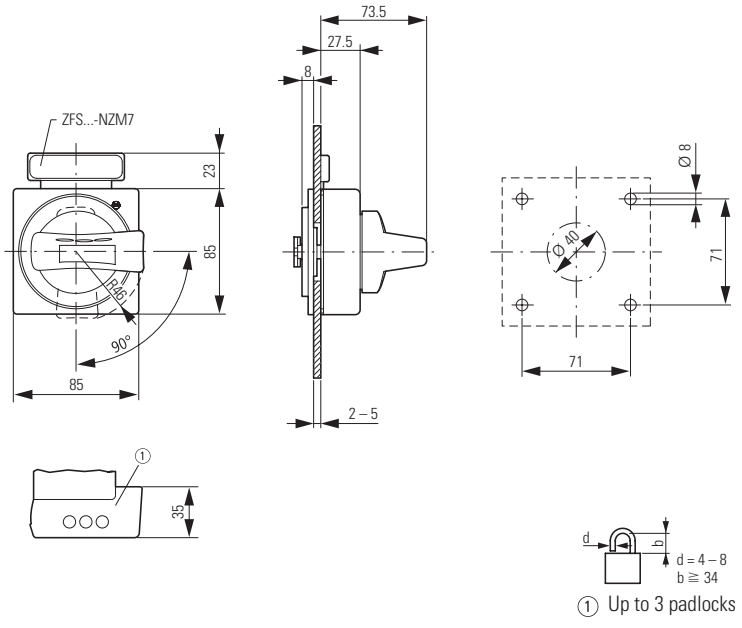
NZM1-XDTV



① Up to 3 padlocks

Door coupling rotary handle

NZM1-XTVD(V)(R)

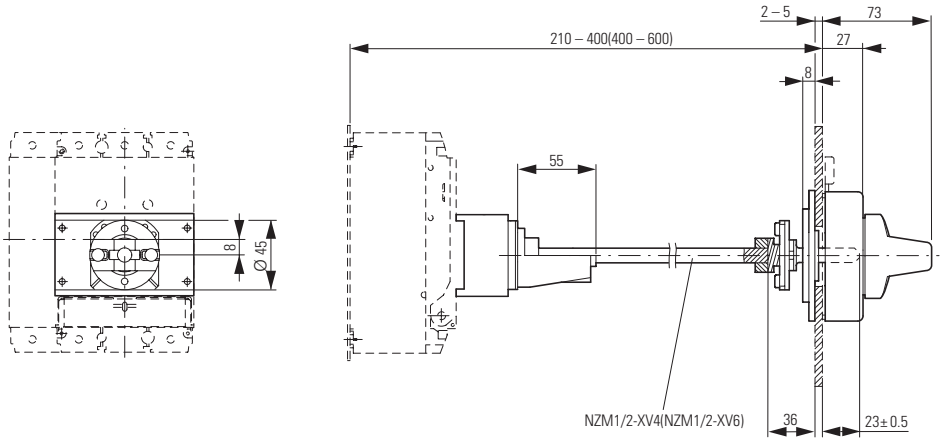


① Up to 3 padlocks

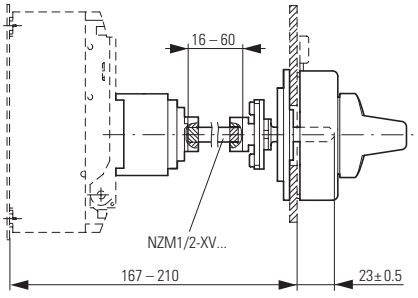
Size 1: accessories NZM1-XTVD…

Door coupling rotary handle with extension shaft

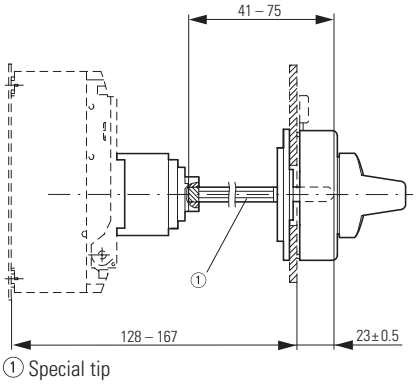
NZM1-XTVD(V)(R)
NZM1/2-XV4(6)



NZM1-XTVD(V)(R)-60

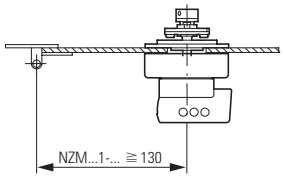


NZM1-XTVD(V)(R)-0



① Special tip

Minimum door coupling rotary handle clearance from door pivot point



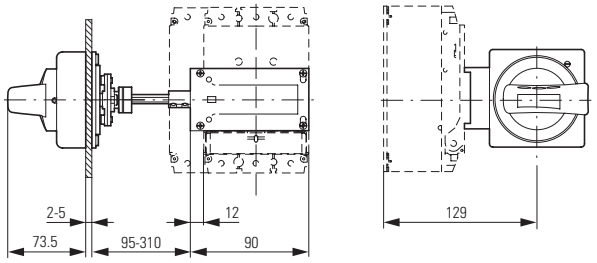
Circuit-breakers LZM

Dimensions

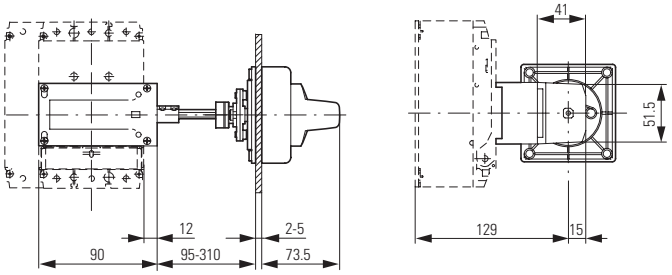
Size 1: accessories NZM1-XS, NZM1…HIV

Main switch assembly kit for side panel mounting

NZM1-XS(R)-L

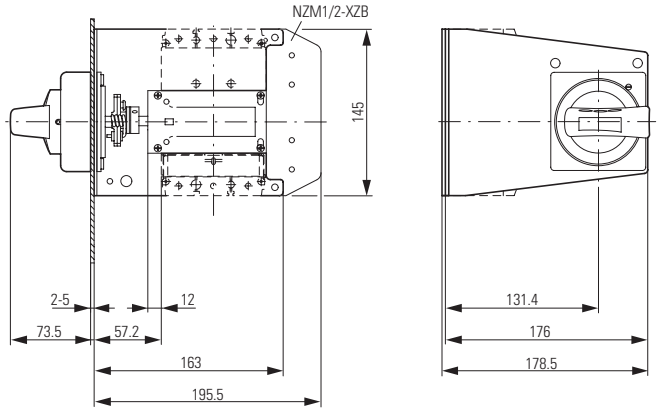


NZM1-XS(R)-R

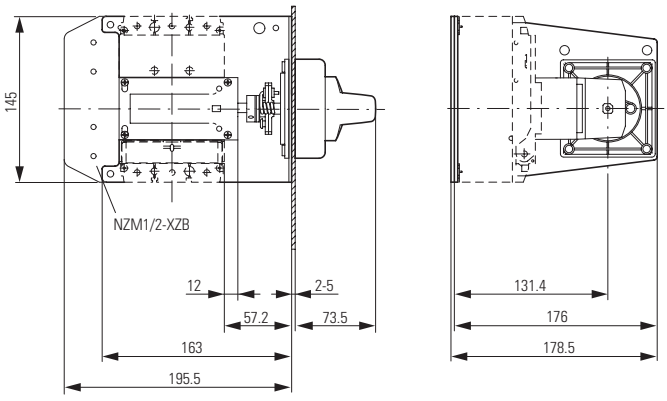


Main switch assembly kit for side panel mounting with mounting bracket

NZM1-XS(R)M-L



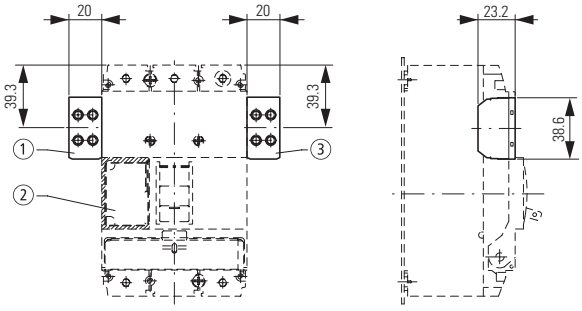
NZM1-XS(R)M-R



Undervoltage release

Shunt release

Early-make auxiliary contacts



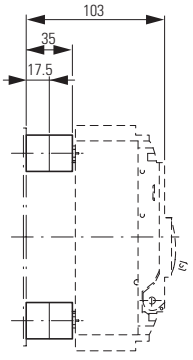
① NZM1-XA(HIV)
NZM1-XU(HIV)(20)
NZM1-XHIV

② NZM1-XA(HIV)(L)
NZM1-XU(V)(HIV)(L)(20)
NZM1-XHIV(L)

③ NZM1-XHIVR

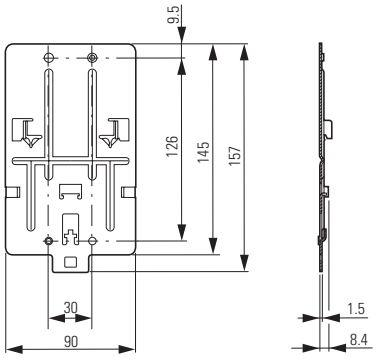
Spacers

NZM1/2-XAB



Clip plate

NZM1-XC35

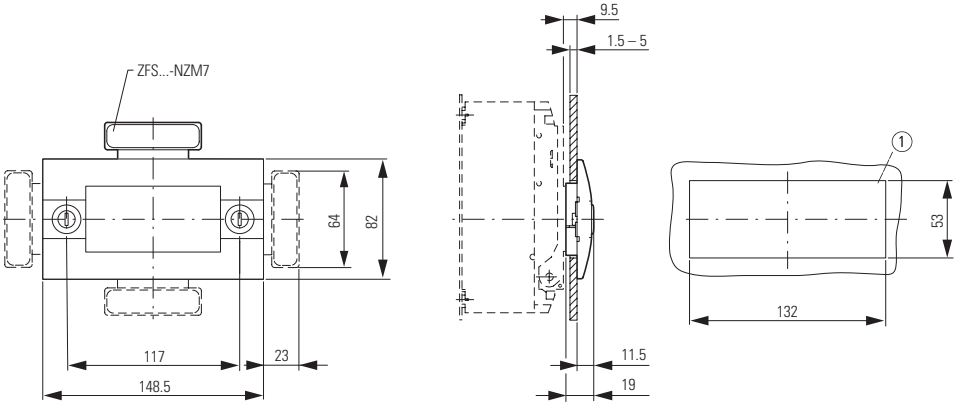


Size 1: accessories NZM…-X…

Insulating surrounds

NZM1-XBR

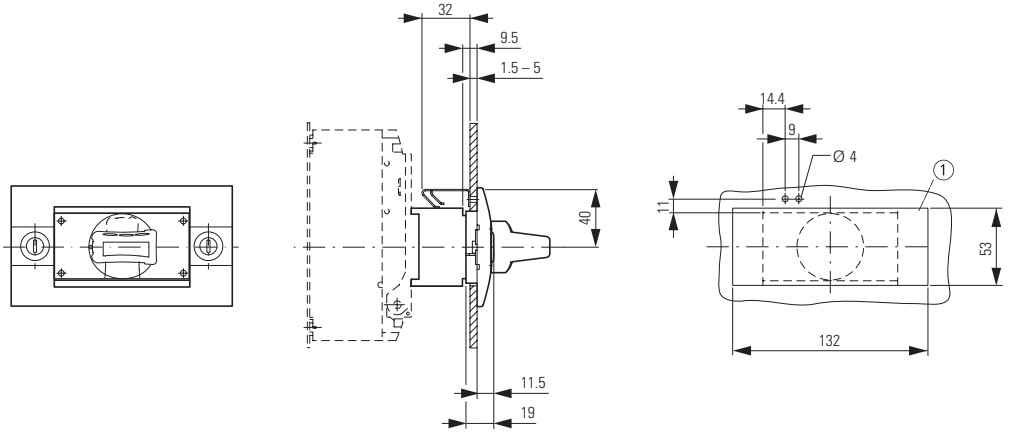
① Mounting aperture



Rotary handle on switch with door interlock

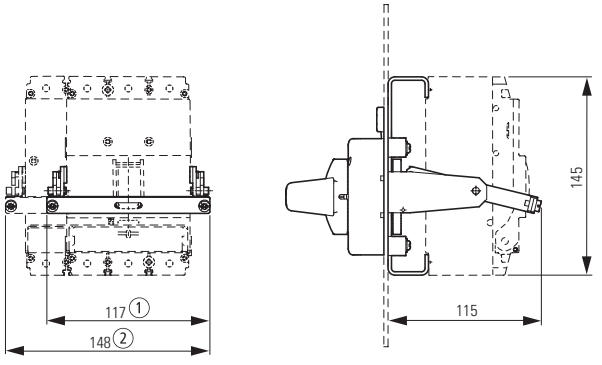
NZM1-XDTV(R)

① Mounting aperture



Rear drive

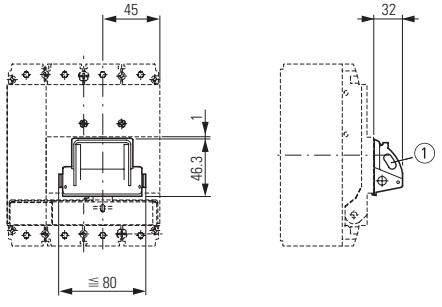
NZM1-XRAV(R)
NZM1-4-XRAV(R)

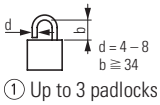


① NZM1-XRAV(R)
② NZM1-4-XRAV(R)

Toggle lever locking device

NZM-XKAV



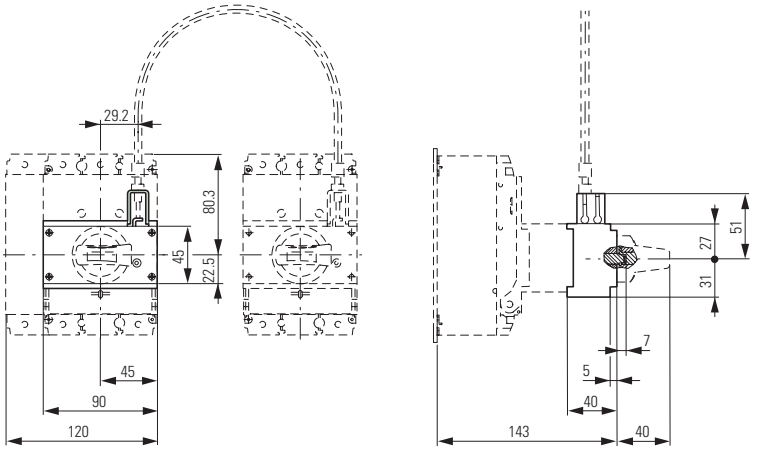


① Up to 3 padlocks

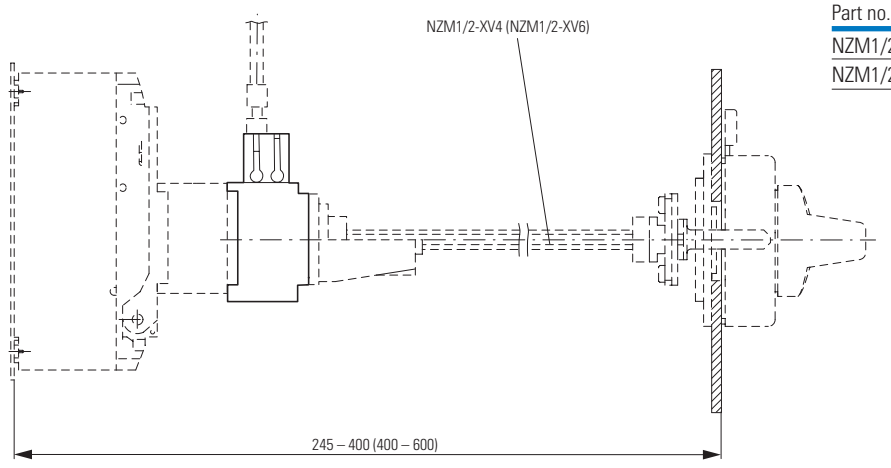
Size 1: accessories NZM1-XMV, NZM1-XTV…

Mechanical interlock

NZM1-XMV + NZM1-XDV(R)

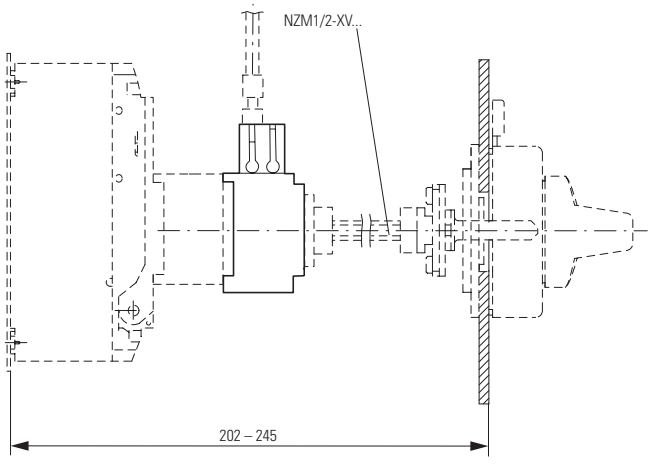


NZM1-XMV + NZM1-XTVD(V)(R)

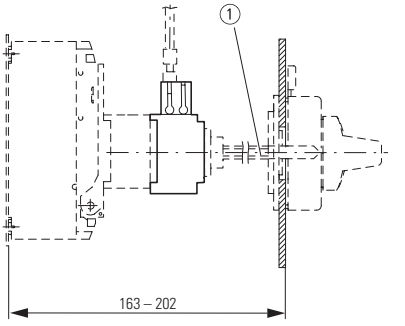


Part no.	x
NZM1/2-XV4	245 – 400
NZM1/2-XV6	400 – 600

NZM1-XMV + NZM1-XTVD(V)(R)-60



NZM1-XMV + NZM1-XTVD(V)(R)-0

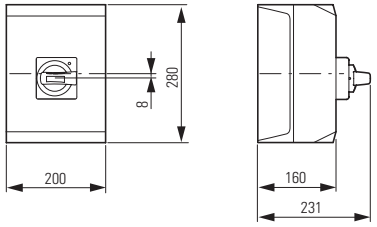


① Special tip

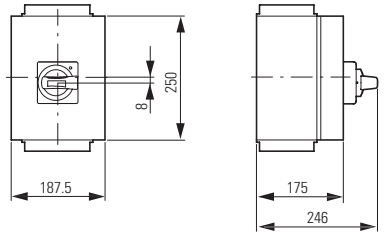
Size 1: accessories NZM1-XCI..., NZM1-XAD

Insulated enclosures

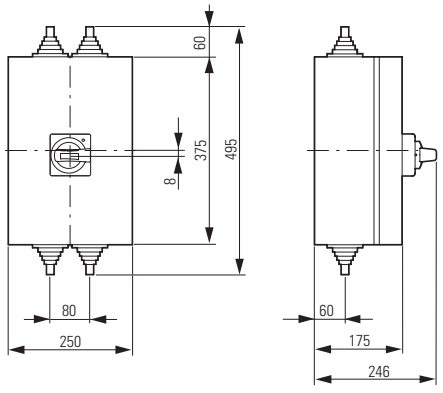
NZM1-XCIK5-T...



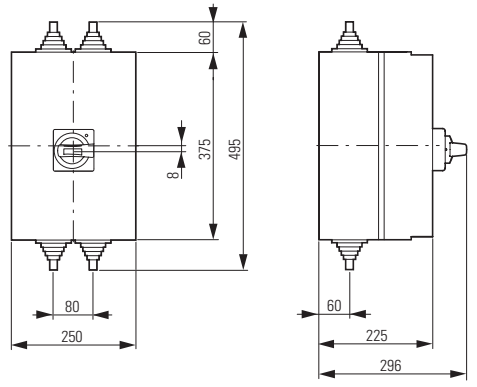
NZM1-XCI23-T...



NZM1-XCI43-T...

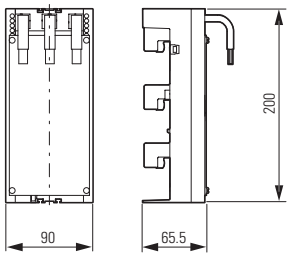


NZM1-XCI43/2-T...



Component adapter

NZM1-XAD160



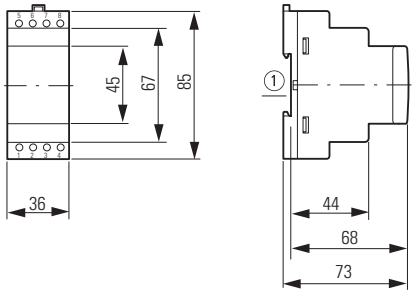
Circuit-breakers LZM

Dimensions

Size 1: accessories NZM1…-XFI…, PFR-…

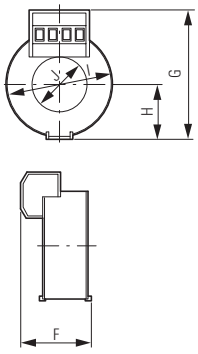
Residual-current relay

PFR-003
PFR-03
PFR-5

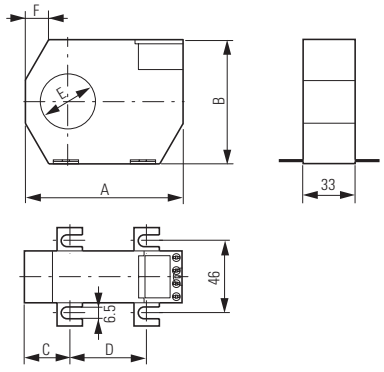


Current transformer

PFR-W-20…30



PFR-W-35...210

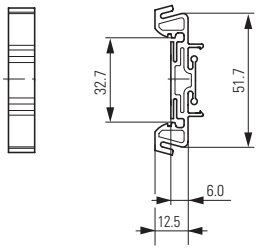


Part no.	A	B	C	D	E	F
PFR-W-35	100	79	26	48.5	35	35
PFR-W-70	130	110	32	66	70	52
PFR-W-105	170	146	38	94	105	72
PFR-W-140	220	196	48.5	123	140	97
PFR-W-210	299	284	69	161	210	141

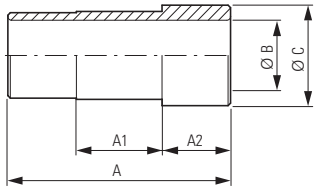
Part no.	F	G	H	I	J
PFR-W-20	32	60	24	46	21
PFR-W-30	32	70	30	59	30

Fixing clip

PFR-WC



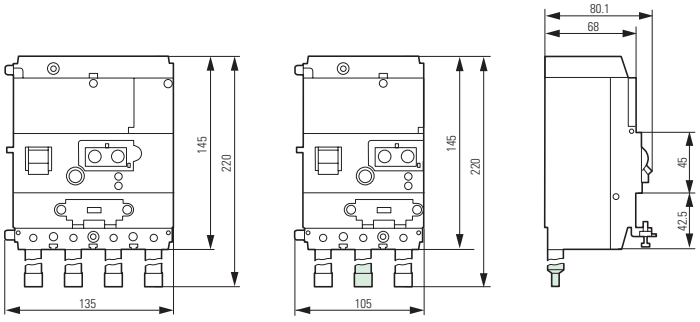
PFR-WMA



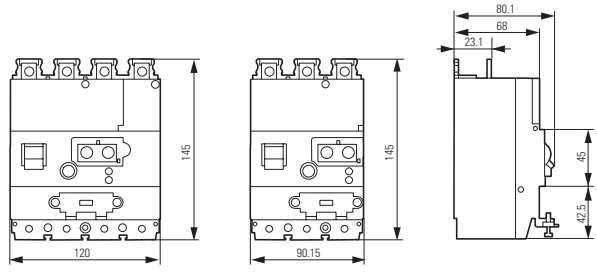
Part no.	A	ØB	ØC	A1	A2
PFR-WMA-35	91	28	40	35	28
PFR-WMA-70	105	62	75	35	35
PFR-WMA-105	153	98	110	35	60
PFR-WMA-140	153	133	145	35	60
PFR-WMA-210	153	203	215	35	60

Residual-current release

NZM1(-4)-XFI...R

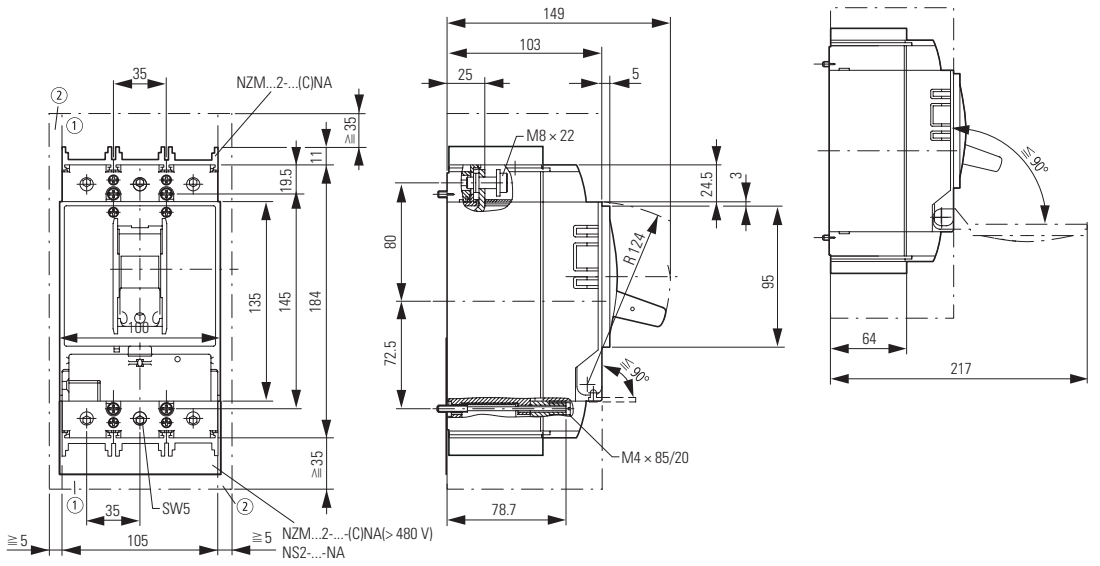


NZM1(-4)-XFI...U



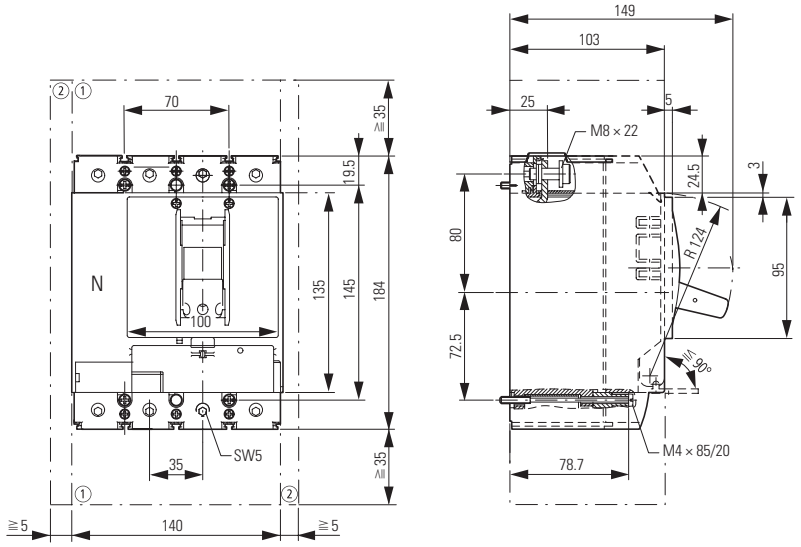
Size 2: Basic units LZM2

Circuit-breaker
3 pole
LZMB2
LZMC2
LZMN2
LZMS2



① Blow out area, minimum distance to other parts ≧ 35 mm
② Minimum distance to adjacent parts ≧ 5 mm

Circuit-breaker
4 pole
LZMB2-4
LZMC2-4
LZMN2-4
LZMS2-4



① Blow out area, minimum distance to other parts ≧ 35 mm
② Minimum distance to adjacent parts ≧ 5 mm

Circuit-breakers LZM

Dimensions

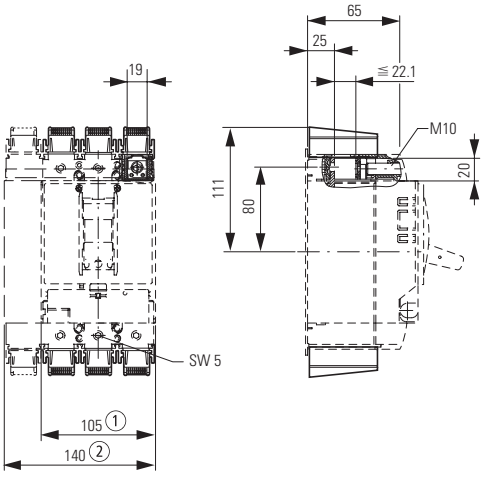
Size 2: accessories NZM2…-XK…, NZM2…-XIP…, NZM2-XST…

Box terminal

(+)NZM2(-4)-…-XKC(O)(U)

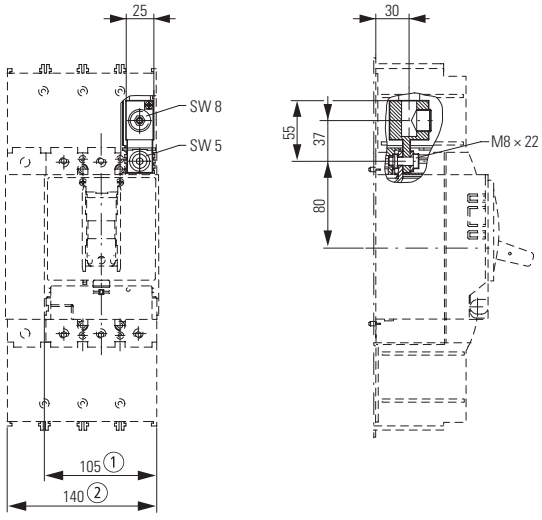
IP2X protection against contact with a finger

NZM2(-4)-XIPK



Tunnel terminal

NZM2(-4)-XKA



① 3 pole
② 4 pole

Covers

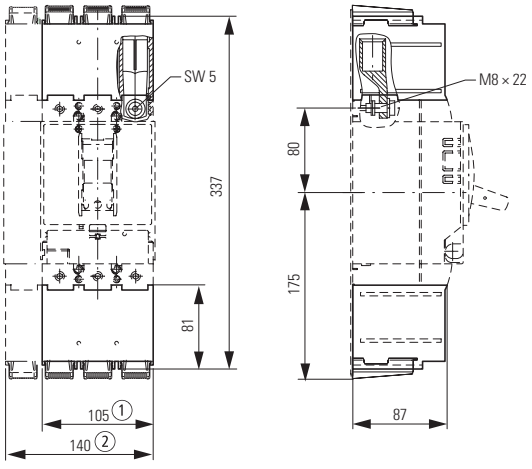
NZM2(-4)-XKSA

Cable lug

NZM2-XKS185

IP2X protection against contact with a finger for shroud

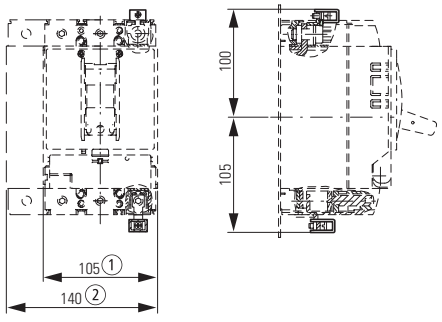
NZM2(-4)-XIPA



Control circuit terminal

NZM2-XSTS

NZM-XSTK

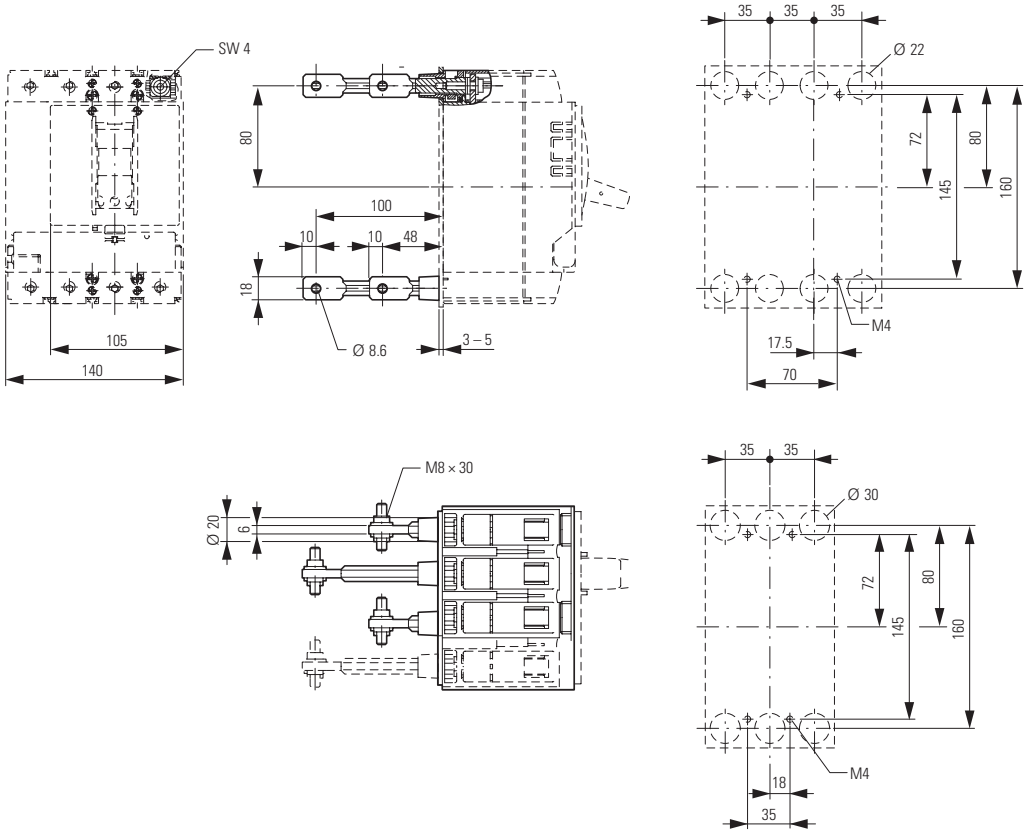


① 3 pole
② 4 pole

Size 2: accessories NZM2…-XKR…, NZM2-XDV…, NZM2-XDTV…

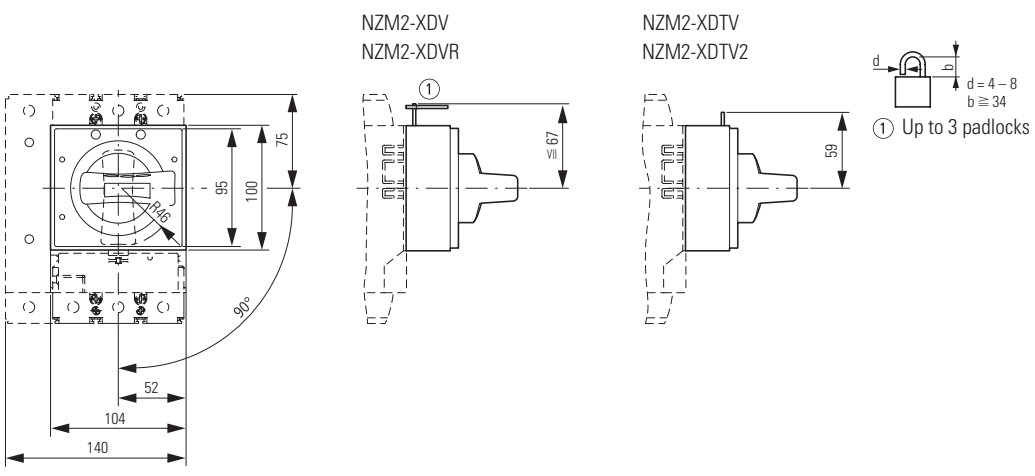
Connection on rear

(+)NZM2(-4)-XKR(O)(U)



Rotary drive

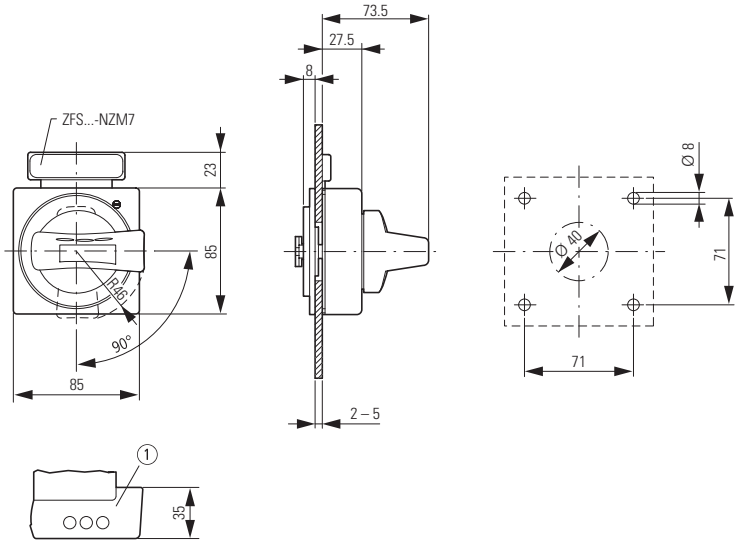
Rotary handle on circuit-breaker

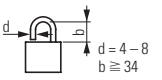


Size 2: accessories NZM2-XTV..., NZM1/2-XV4(6)

Door coupling rotary handle

NZM2-XTVD(V)(R)...

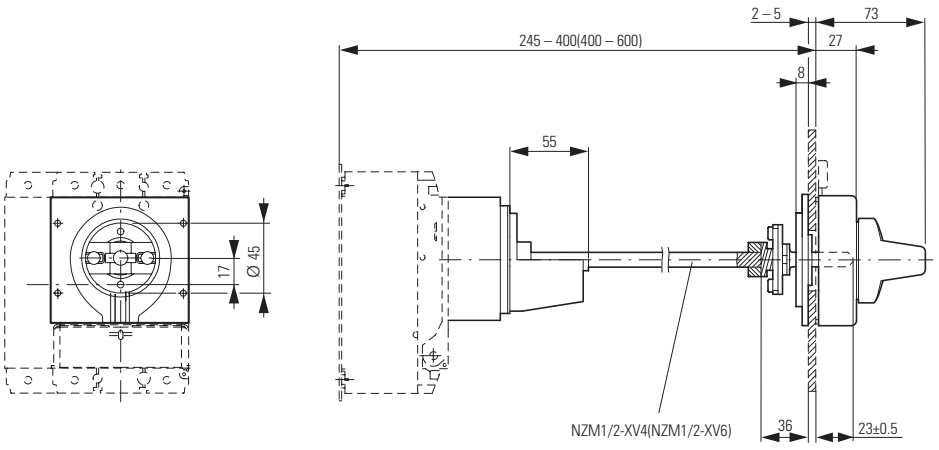




① Up to 3 padlocks

Door coupling rotary handle with extension shaft

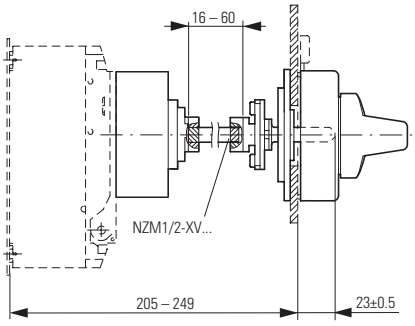
NZM2-XTVD(V)(R)
NZM1/2-XV4(6)



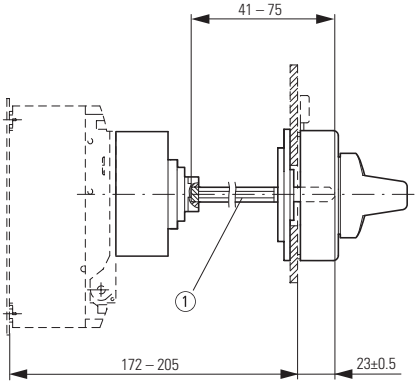
Size 2: accessories NZM2-XTVD..., NZM2-XS...

Door coupling rotary handle with extension shaft

NZM2-XTVD(V)(R)-60

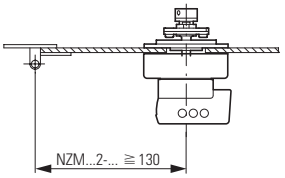


NZM2-XTVD(V)(R)-0



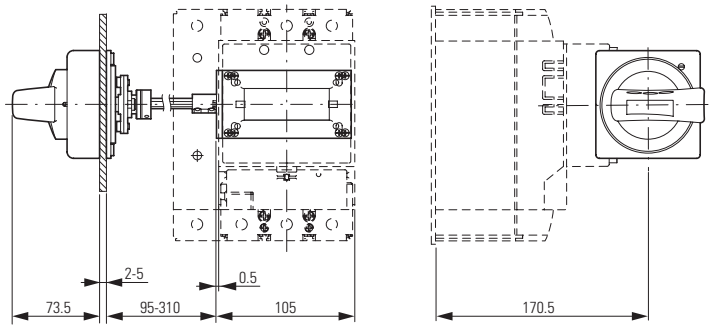
① Special tip

Minimum door coupling rotary handle clearance from door pivot point

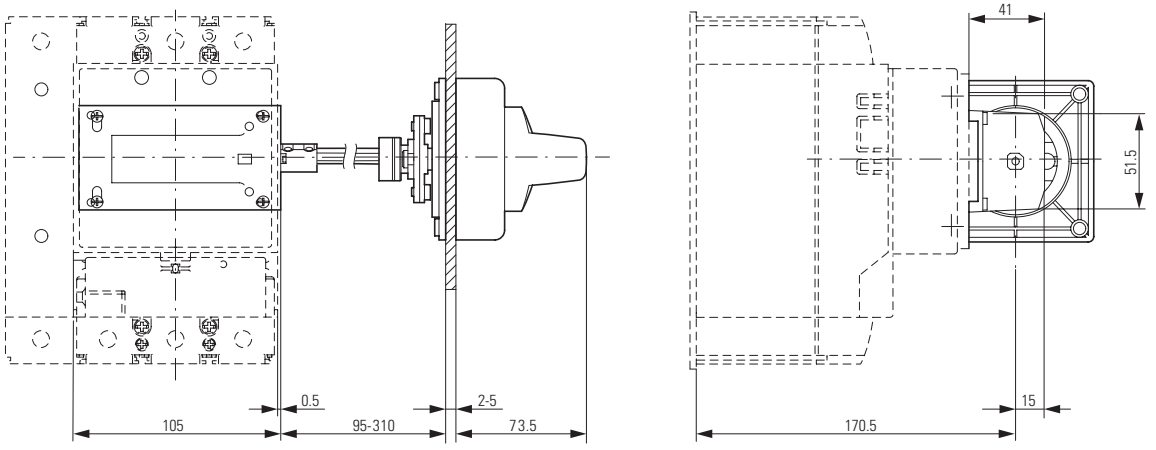


Main switch assembly kit for side panel mounting

NZM2-XS(R)-L



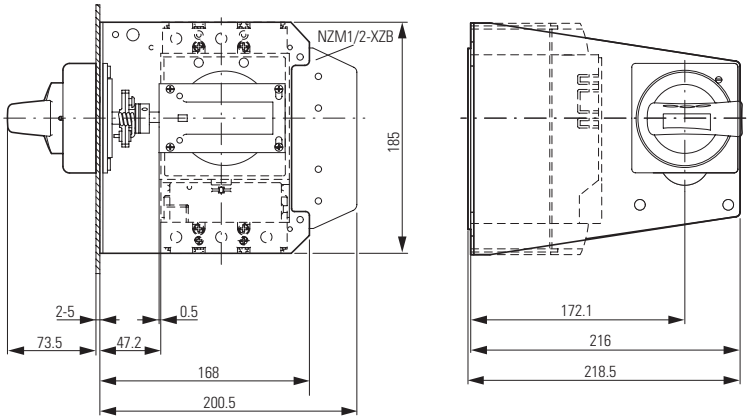
NZM2-XS(R)-R



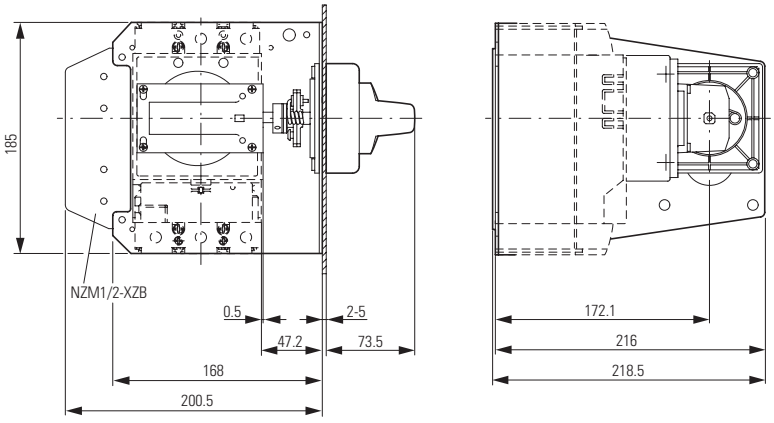
Size 2: accessories NZM2-XS…, NZM2…-XRAV…

Main switch assembly kit for side panel mounting with mounting bracket

NZM2-XS(R)M-L

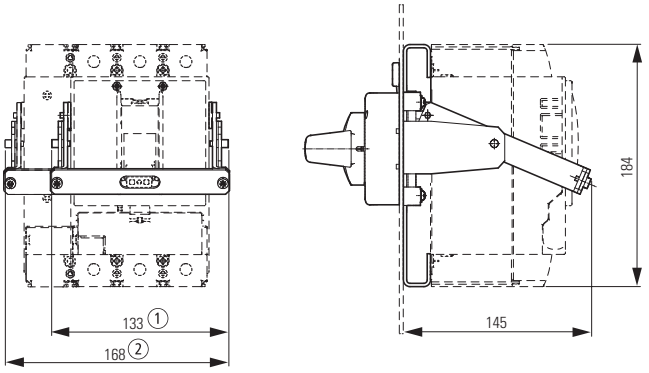


NZM2-XS(R)M-R



Rear drive

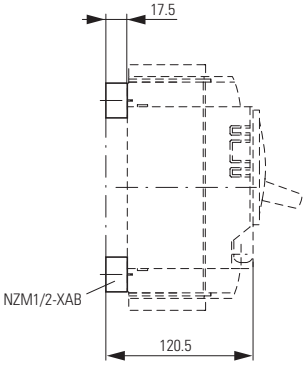
NZM2-XRAV



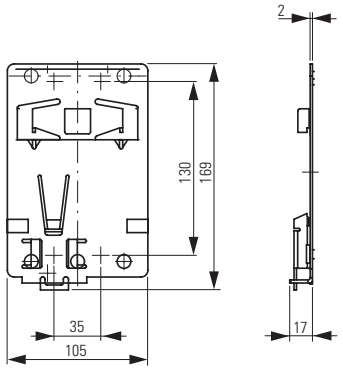
① NZM2-XRAV(R)
② NZM2-4-XRAV(R)

Size 2: accessories NZM…-XAB, NZM2-XBR, NZM2-XDTV…

Spacers
NZM1/2-XAB

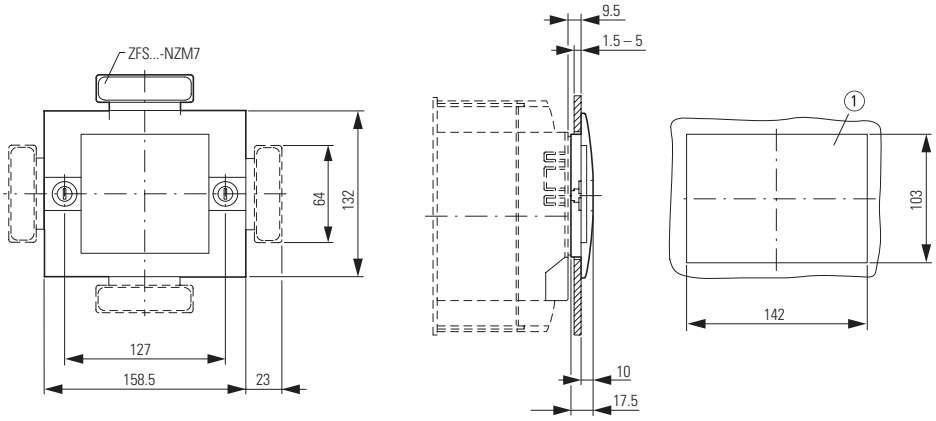


Clip plate
NZM2-XC75



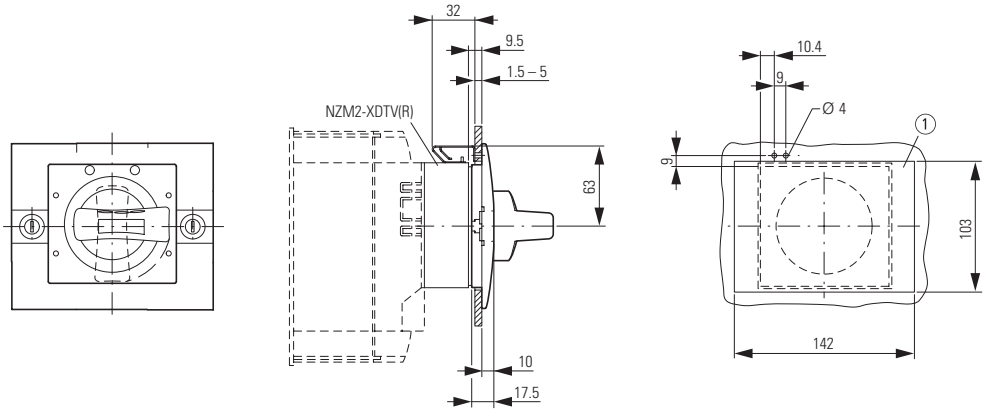
Insulating surrounds
NZM2-XBR

① Mounting aperture



Rotary handle on switch with door interlock
NZM2-XDTV(R)

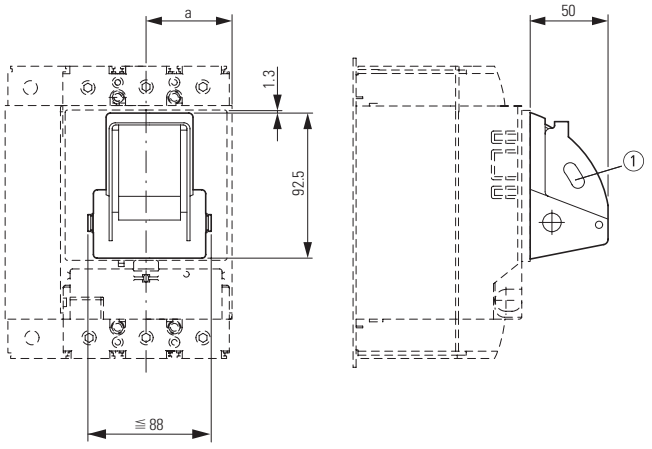
① Mounting aperture

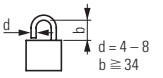


Size 2: accessories NZM2…-XKAV

Toggle lever locking device

NZM2/3-XKAV





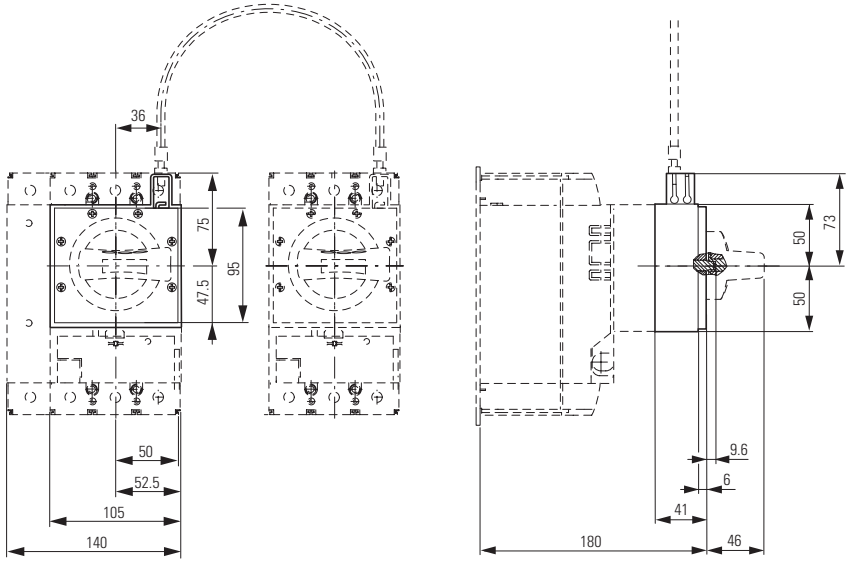
① Up to 3 padlocks

Part no.	a
LZM2	52.5
LZM3	70

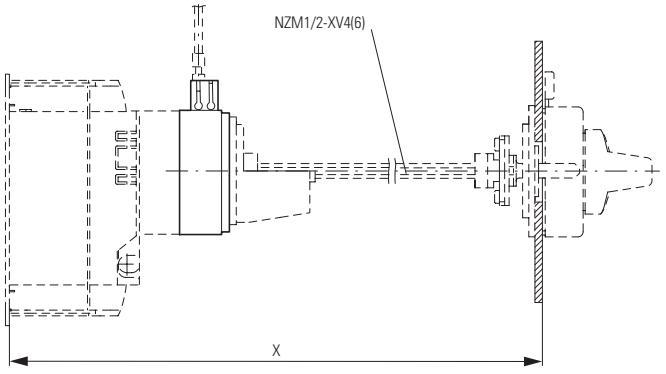
Size 2: accessories NZM2-XMV, NZM2-XTVD..., NZM2-XD

Mechanical interlock

NZM2-XMV + NZM2-XD

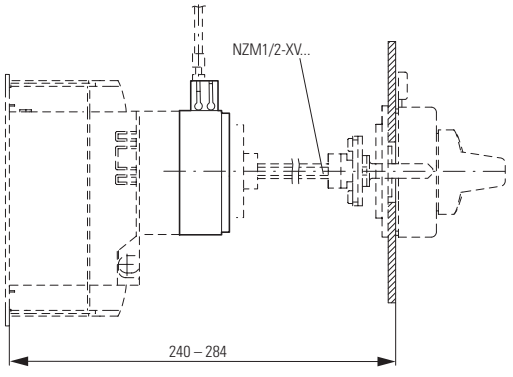


NZM2-XMV + NZM2-XTVD(V)(R)

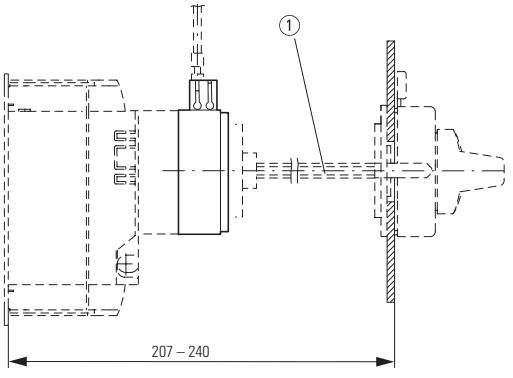


Mechanical interlock

NZM2-XMV + NZM2-XTVD(V)(R)-60



NZM2-XMV + NZM2-XT(V)D(V)(R)-0



① Special tip

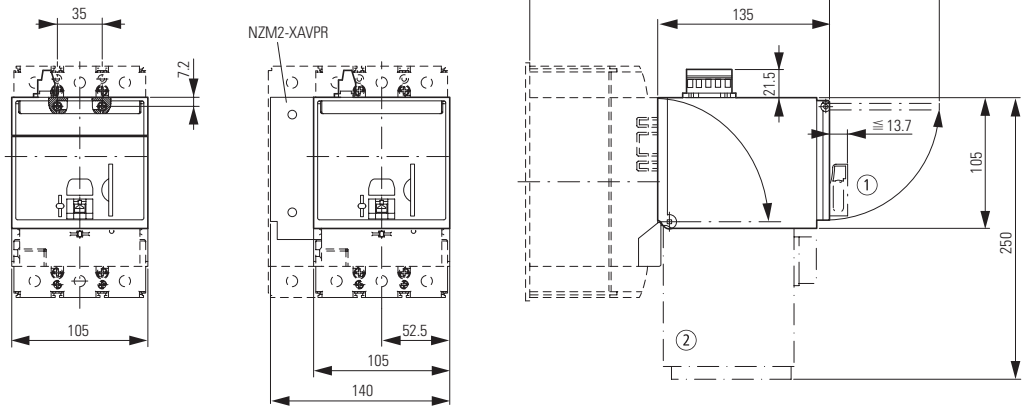
Circuit-breakers LZM

Dimensions

Size 2: accessories NZM2-XR…

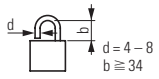
Remote operator

NZM2-XR...



① Up to 3 padlocks

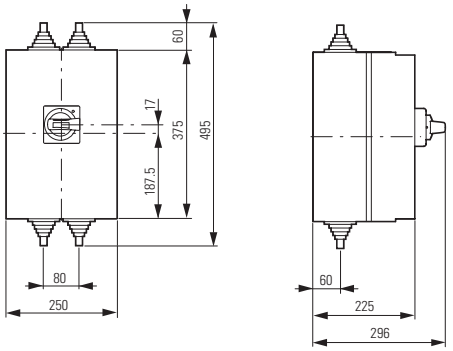
② Remote operator hinged



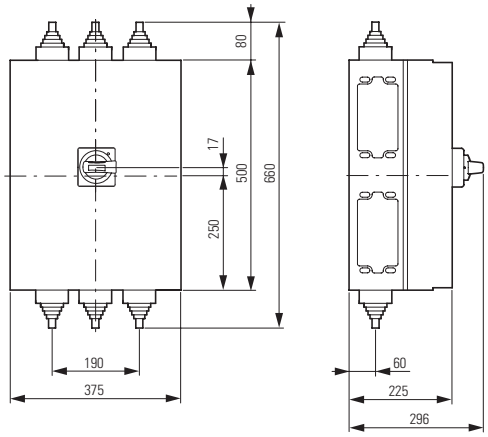
Size 2: accessories NZM2-XCI..., NZM2-XAD, NZM2...-XSV

Insulated enclosures

NZM2-XCI43-T...

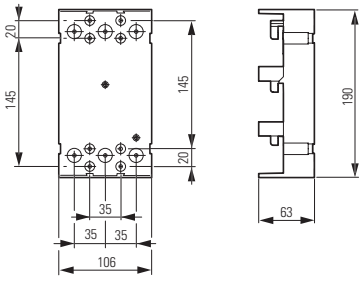


NZM2-XCI45-T...



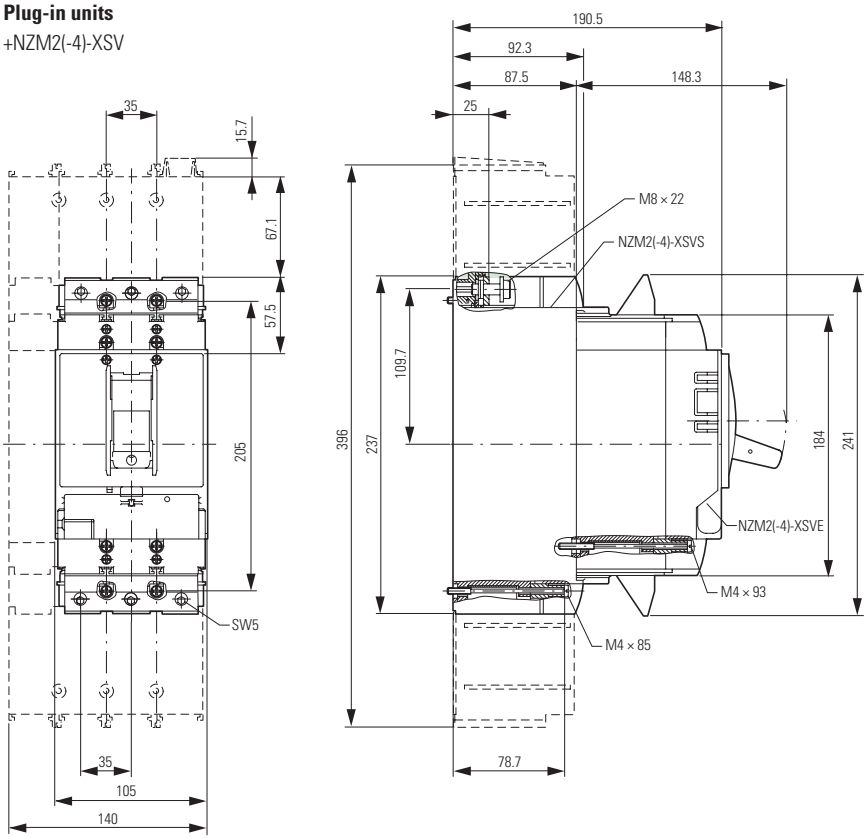
Component adapter

NZM2-XAD250



Plug-in units

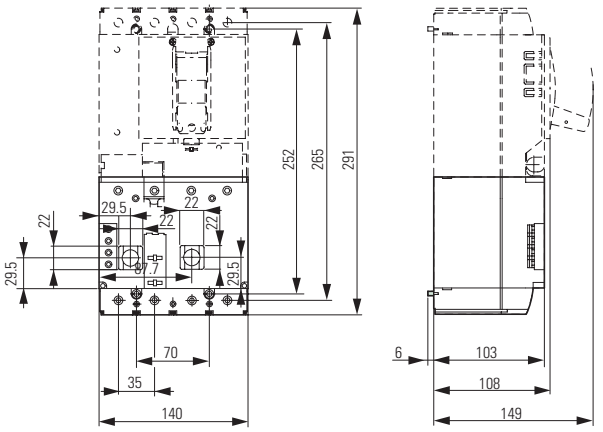
+NZM2(-4)-XSV



Size 2: accessories NZM2(-4)-XFI, NZM-XDMI..., UVU-NZM

Residual-current release

NZM2(-4)-XFI...

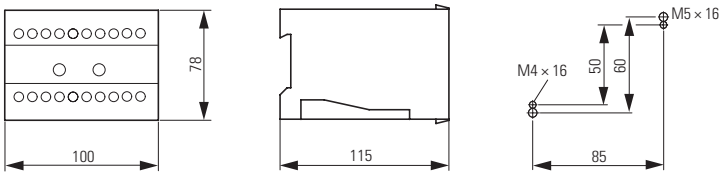


Undervoltage releases, off-delayed

UVU-NZM

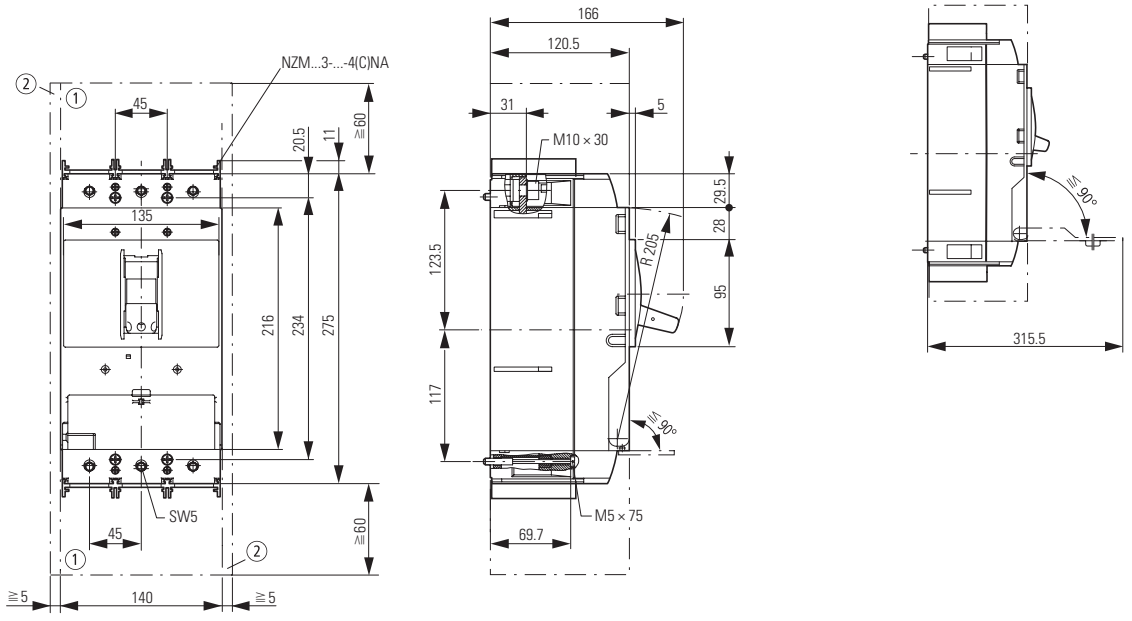
Capacitor unit

NZM-XCM



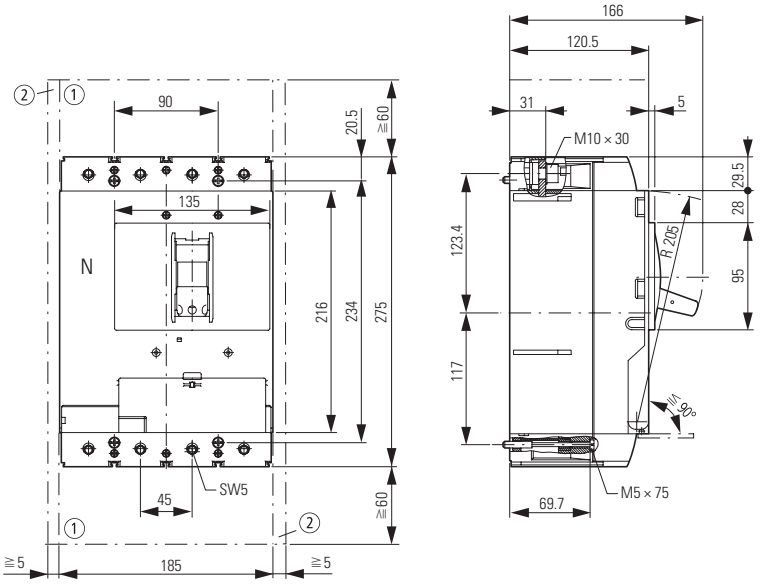
Size 3: Basic units LZM3

Circuit-breaker
3 pole
LZMC3
LZMN3
LZMS3



① Blow-out space, minimum distance to other parts ≧ 60 mm
② Minimum distance to adjacent parts ≧ 5 mm

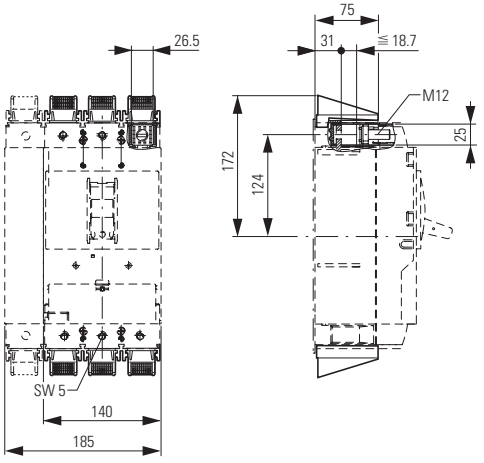
Circuit-breaker
4 pole
LZMC3-4
LZMN3-4
LZMS3-4



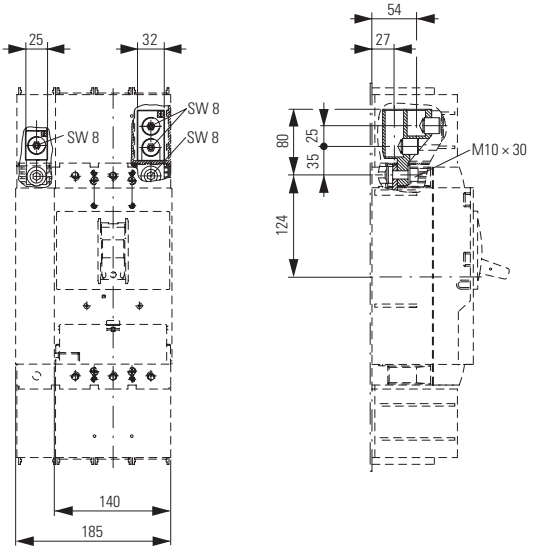
① Blow-out space, minimum distance to other parts ≧ 60 mm
② Minimum distance to adjacent parts ≧ 5 mm

Size 3: accessories NZM3…-XK, NZM3…-XIP…, NZM3-XST…

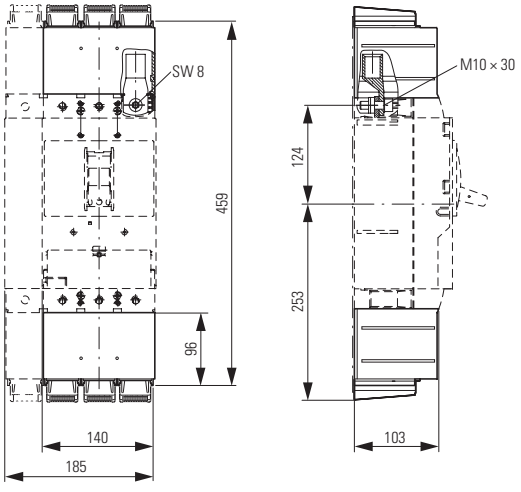
Box terminal
(+)NZM3(-4)-XKC(O)(U)
IP2X protection against contact with a finger
NZM3(-4)-XIPK



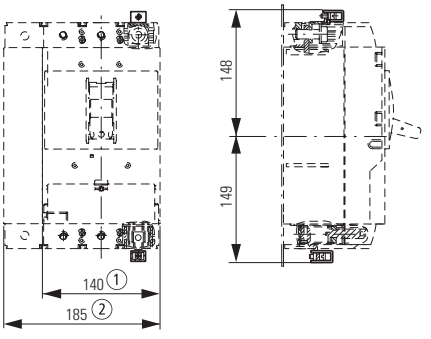
Tunnel terminal
NZM3(-4)-XKA1(2)



Covers
NZM3(-4)-XKSA
Cable lug
NZM3-XKS185
IP2X protection against contact with a finger
NZM3(-4)-XIPA



Control circuit terminal
NZM3/4-XSTS
NZM-XSTK



① 3 pole
② 4 pole

Size 3: accessories NZM3…XK…

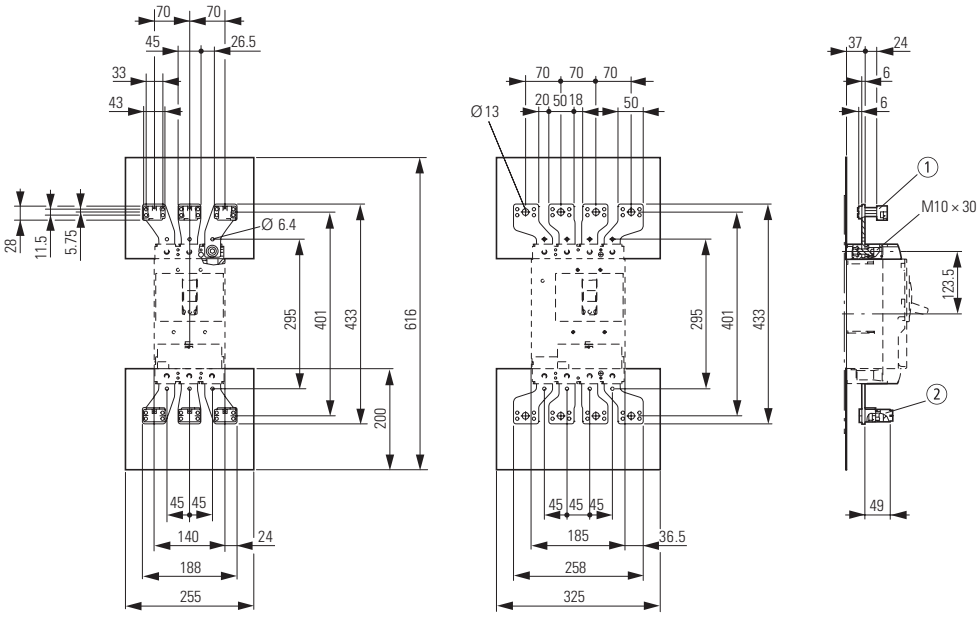
Connection width extension

NZM3(-4)-XKV70

Terminals

NZM3(-4)-XK22X21

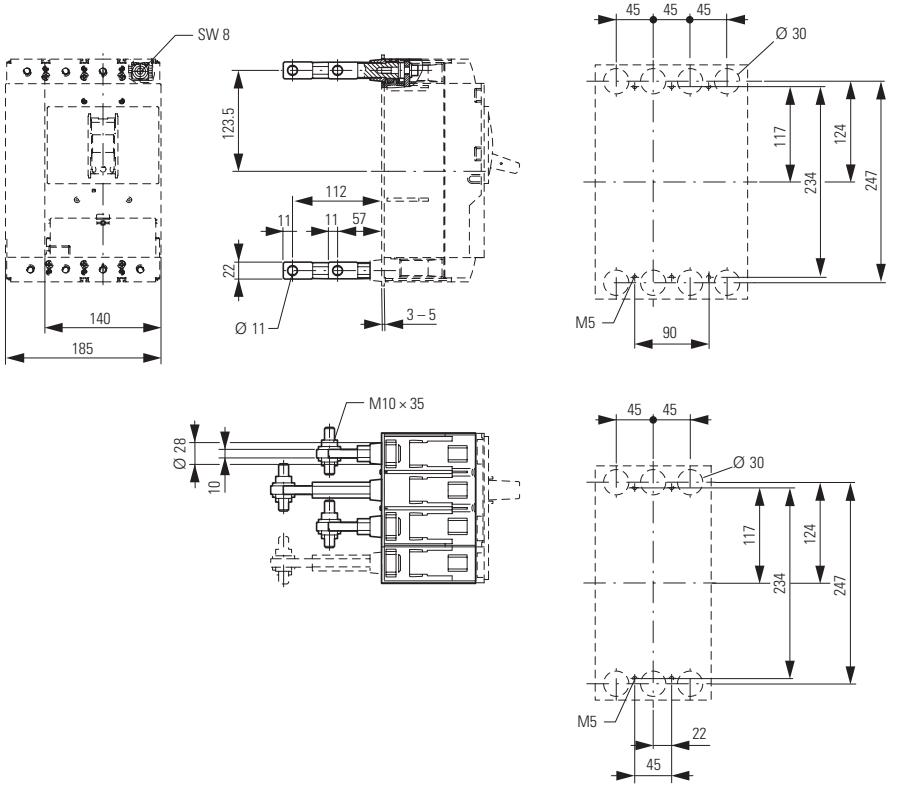
NZM3(-4)-XK300



① NZM3(-4)-XK22X21
② NZM3(-4)-XK300

Connection on rear

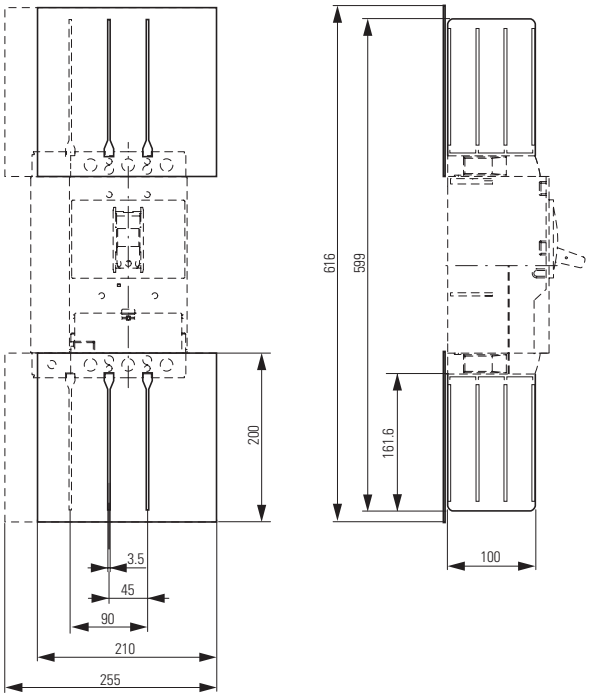
(+)NZM3(-4)-XKR(O)(U)



Size 3: accessories NZM3…-XKP, NZM3-XAB, NZM3-XBR

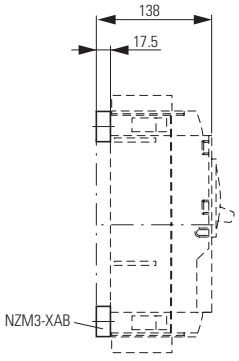
Phase isolators

NZM3-4-XKP



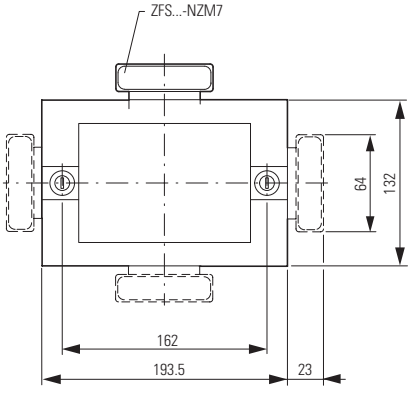
Spacers

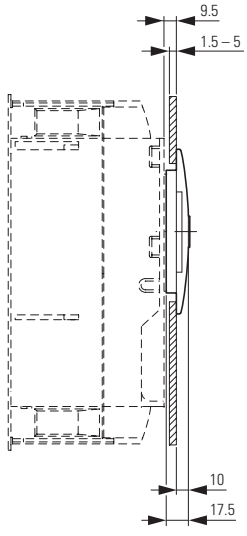
NZM3-XAB



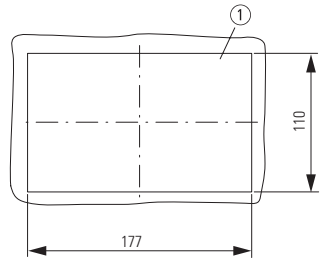
Insulating surrounds

NZM3-XBR





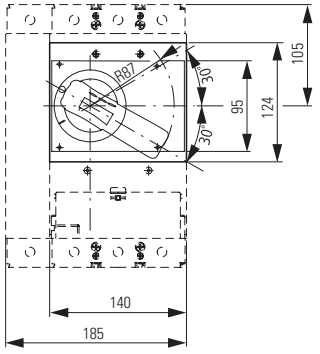
① Mounting aperture



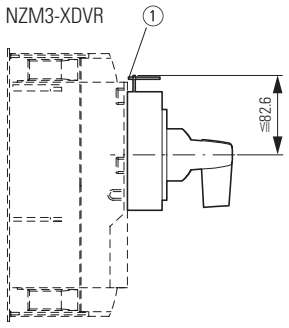
Size 3: accessories NZM3-XDV..., NZM3-XTVD...

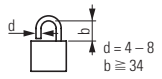
Rotary drive

Rotary handle on circuit-breaker



NZM3-XDV
NZM3-XDVR

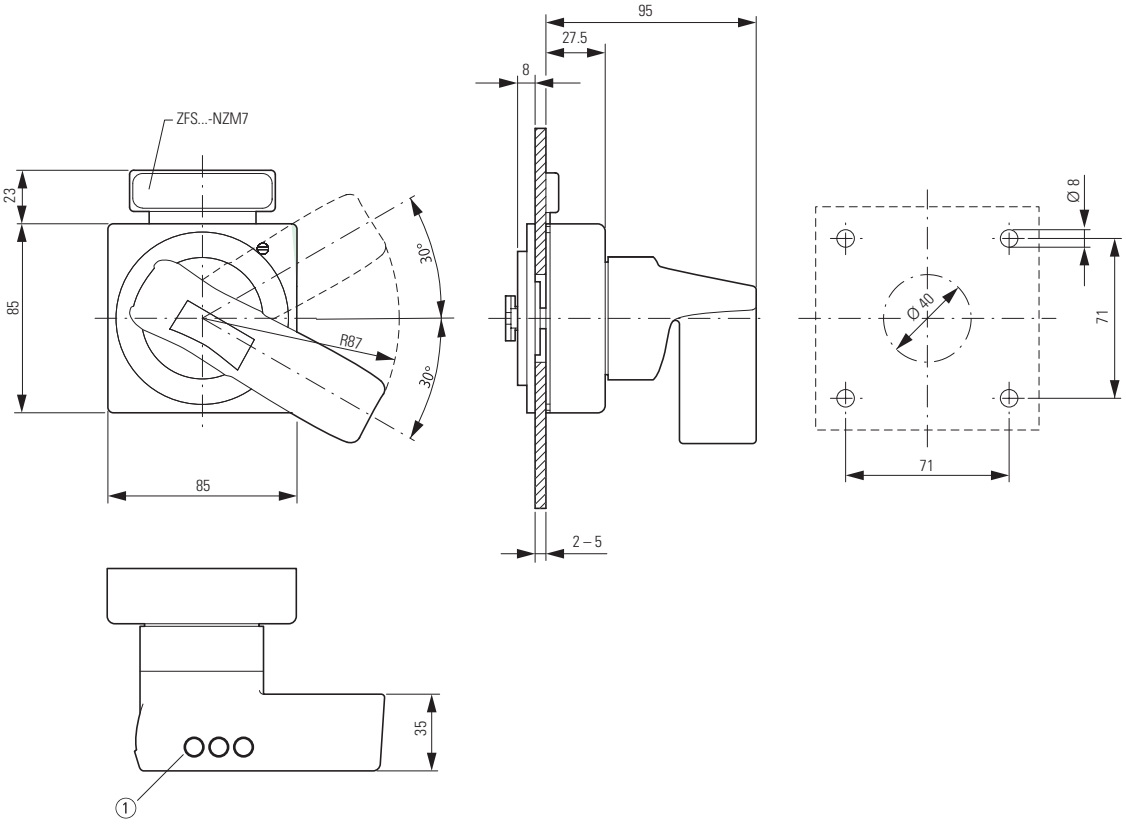


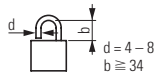


① Up to 3 padlocks

Door coupling rotary handle

NZM3-XTVD(V)(R)...



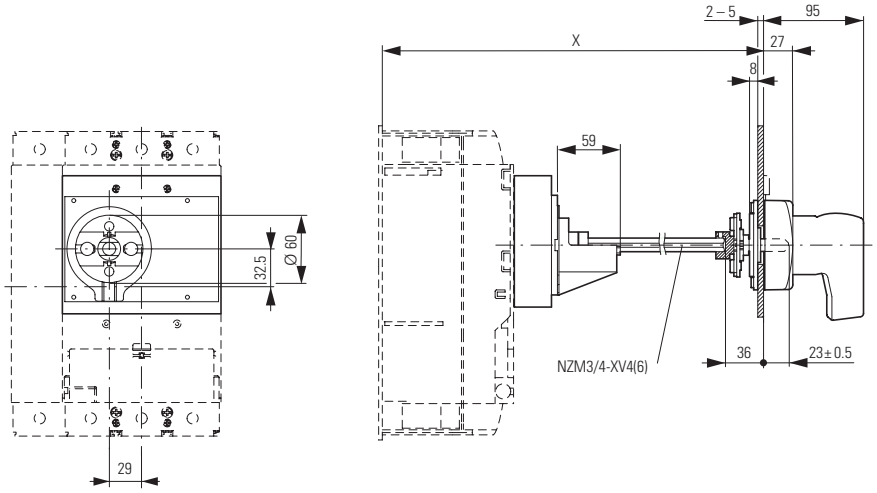


① Up to 3 padlocks

Size 3: accessories NZM3-XTVD…

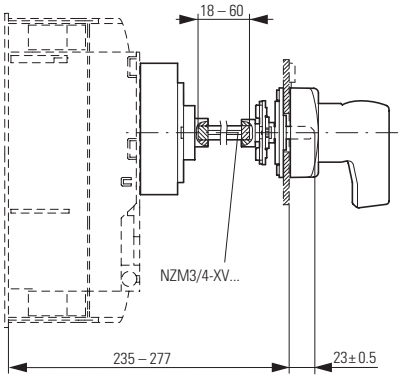
Door coupling rotary handle with extension shaft

NZM3-XTVD(V)(R)
NZM3/4-XV4(6)

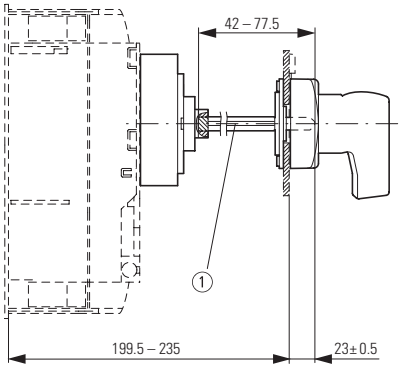


Part no.	x
NZM3/4-XV4	270 – 400
NZM3/4-XV6	400 – 600

NZM3-XTVD(V)(R)-60

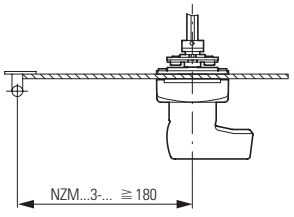


NZM3-XTVD(V)(R)-0



① Special tip

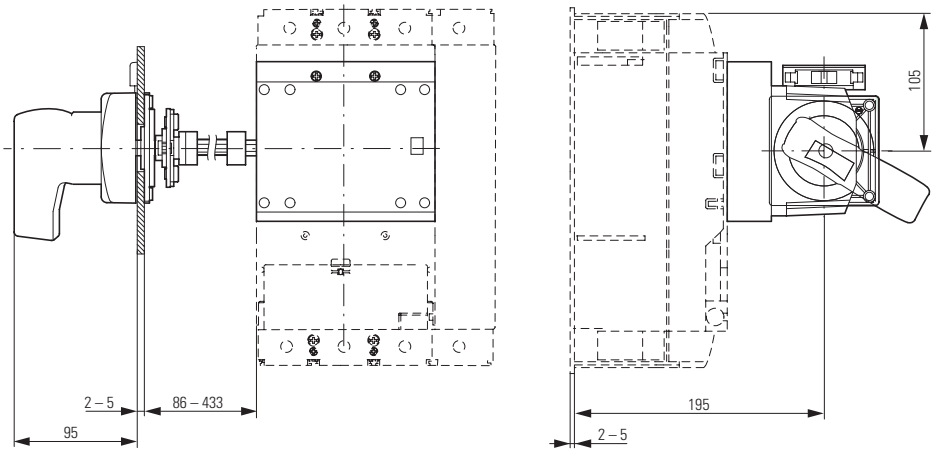
Minimum door coupling rotary handle clearance from door pivot point



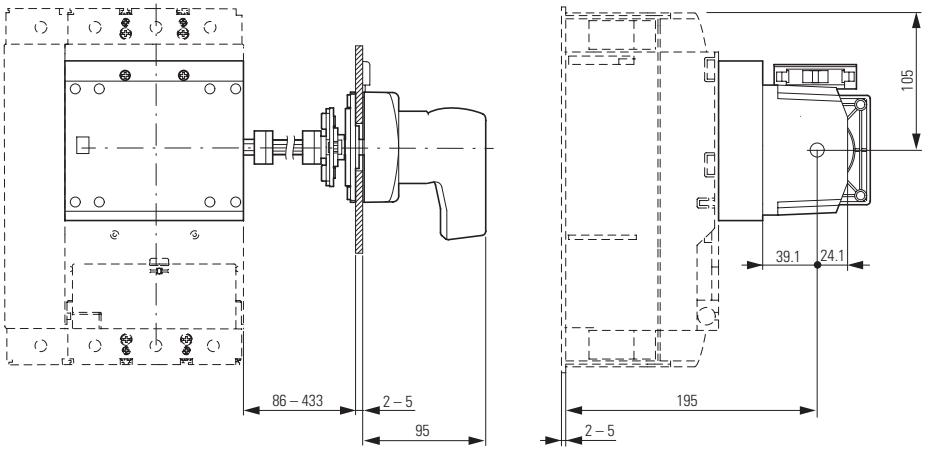
Size 3: accessories NZM3-XS…

Main switch assembly kit for side panel mounting

NZM3-XS(R)-L



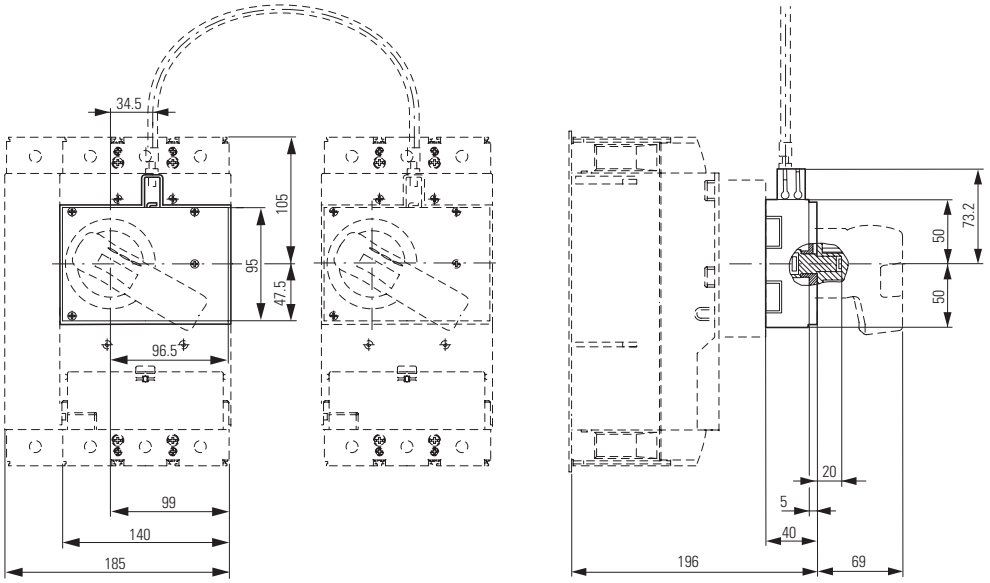
NZM3-XS(R)-R



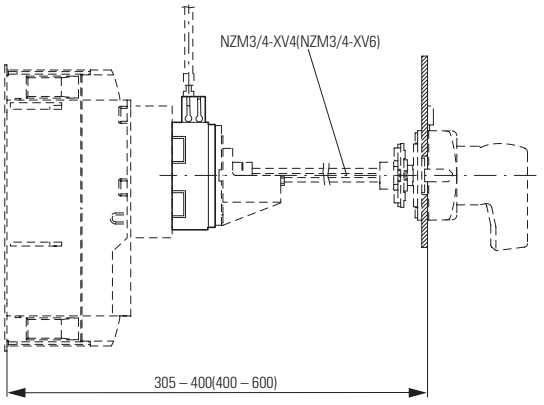
Size 3: accessories NZM3-XMV, NZM3-XTVD…, NZM3-XDV

Mechanical interlock

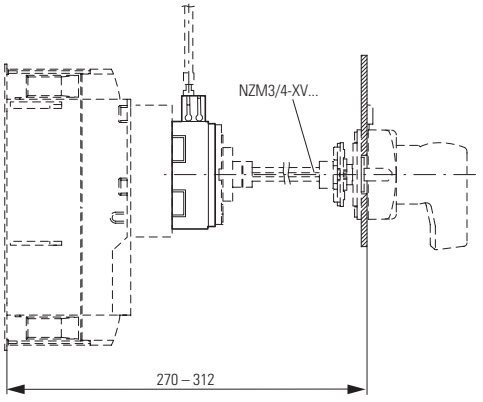
NZM3-XMV + NZM3-XDV(R)



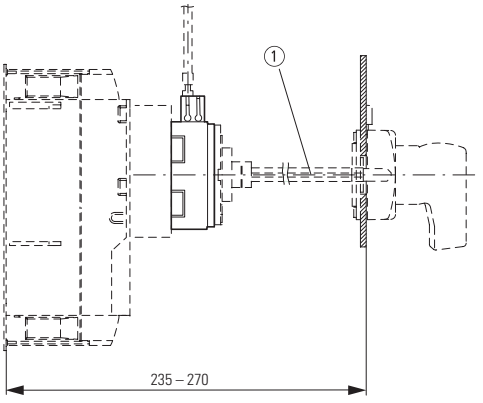
NZM3-XMV + NZM3-XTVD(V)(R)



NZM3-XMV + NZM3-XTVD(V)(R)-60



NZM3-XMV + NZM3-XTVD(V)(R)-0

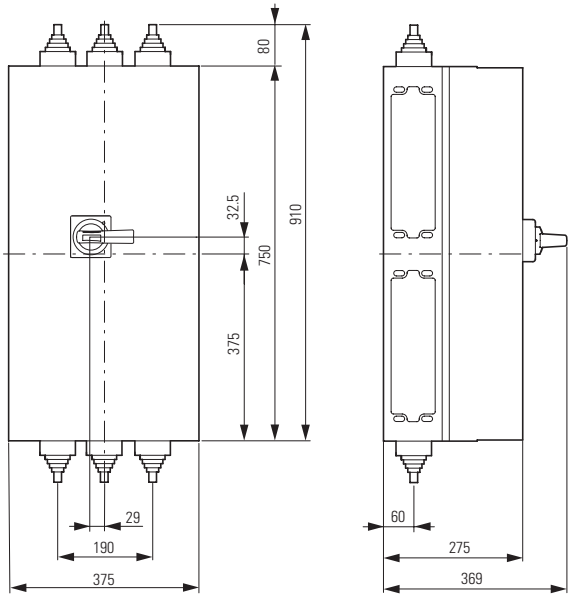


① Special tip

Size 3: accessories NZM3-XCI..., NZM3-XAD...

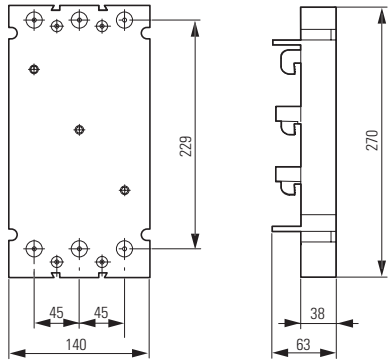
Insulated enclosures

NZM3-XCI48-TD



Component adapter

NZM3-XAD550



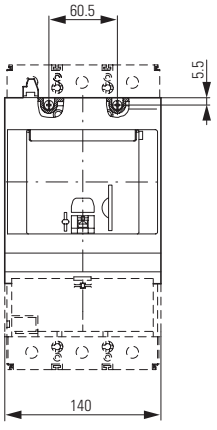
Circuit-breakers LZM

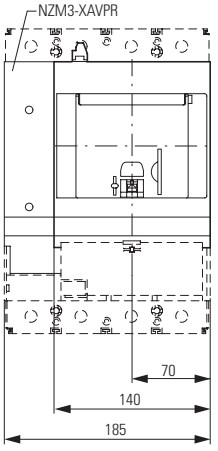
Dimensions

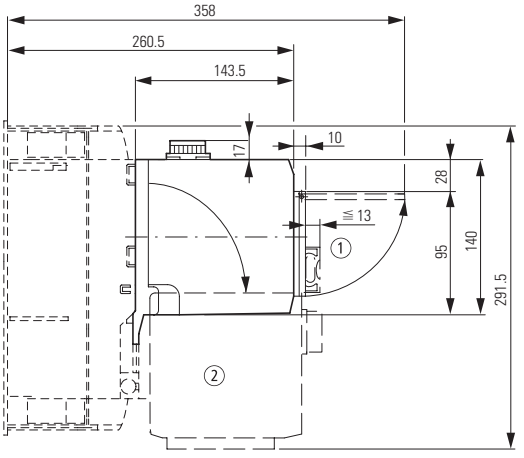
Size 3: accessories NZM3-X…

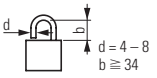
Remote operator

NZM3-XR...





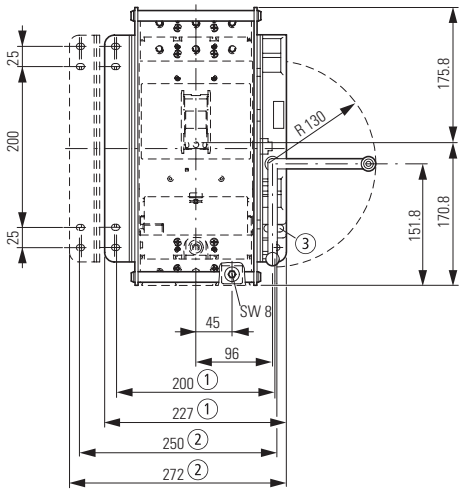


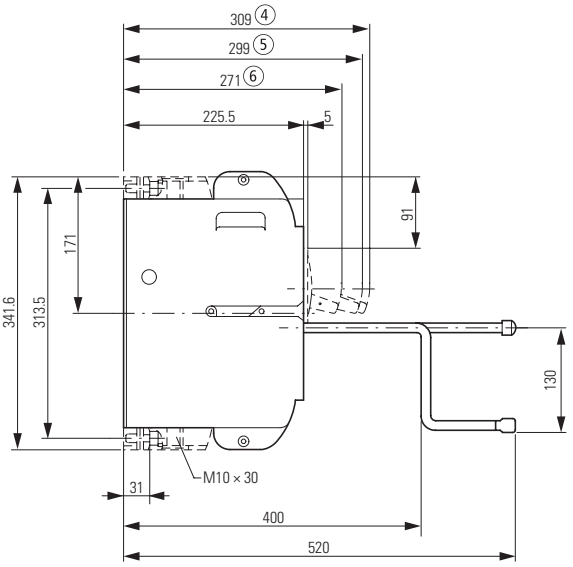


① Up to 3 padlocks

Withdrawable unit

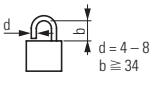
+NZM3(-4)-XAV





① 3-pole

② 4-pole



③ Up to 3 padlocks

④ withdrawn

⑤ test

⑥ connected

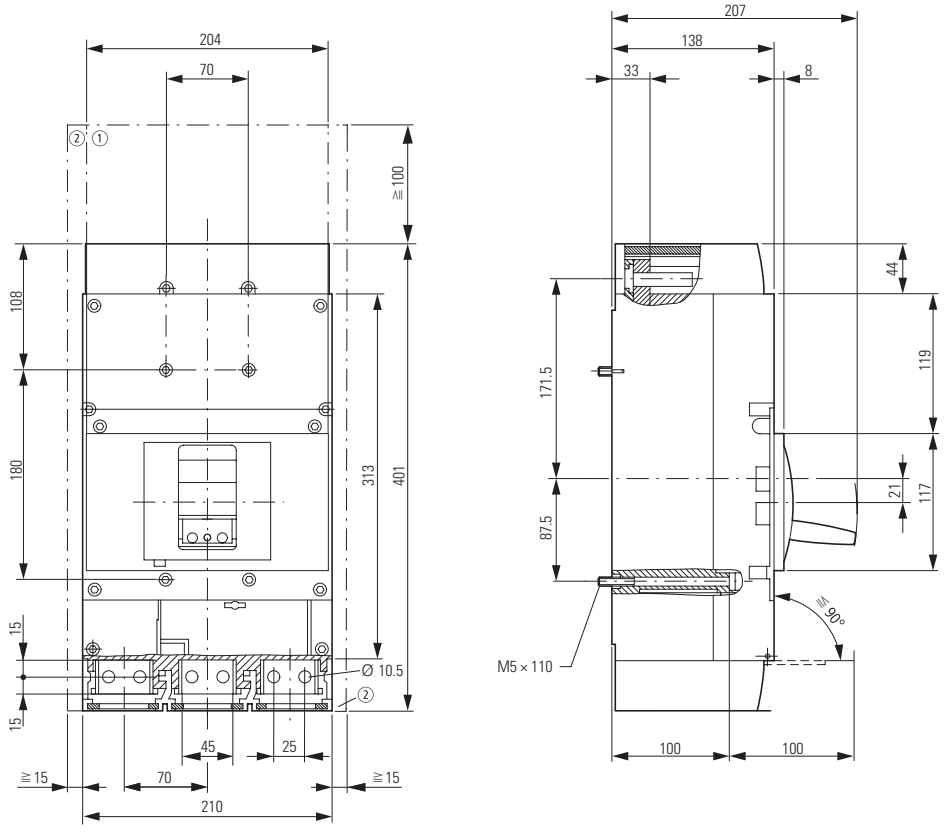
Size 4: Basic units LZM4

Circuit-breaker

3 pole

LZMN4

LZMS4



① Blow out area, minimum distance to other parts ≧ 100 mm up to 690 V

② Minimum distance to adjacent parts ≧ 15 mm

Circuit-breakers LZM

Dimensions

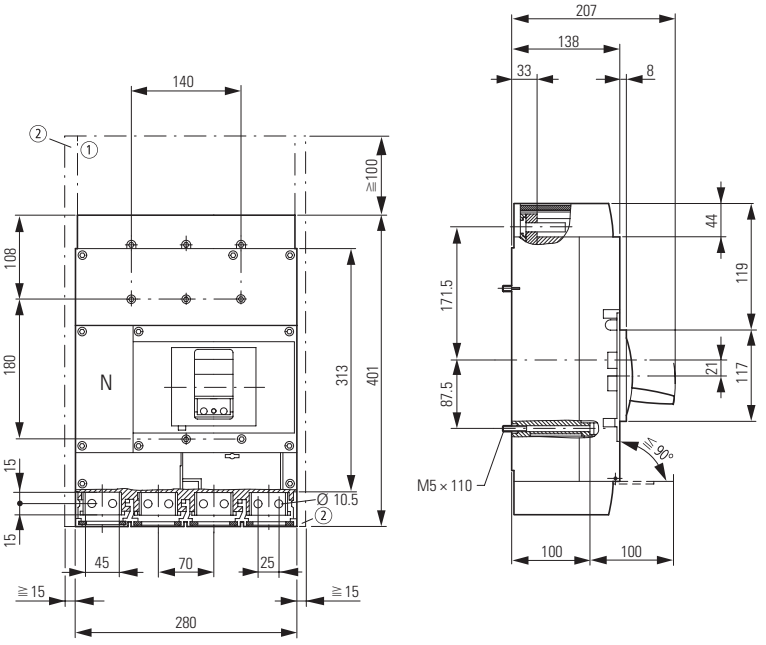
Size 4: accessories LZM4, LZM4…-XK

Circuit-breaker

4 pole

LZMN4-4

LZMS4-4

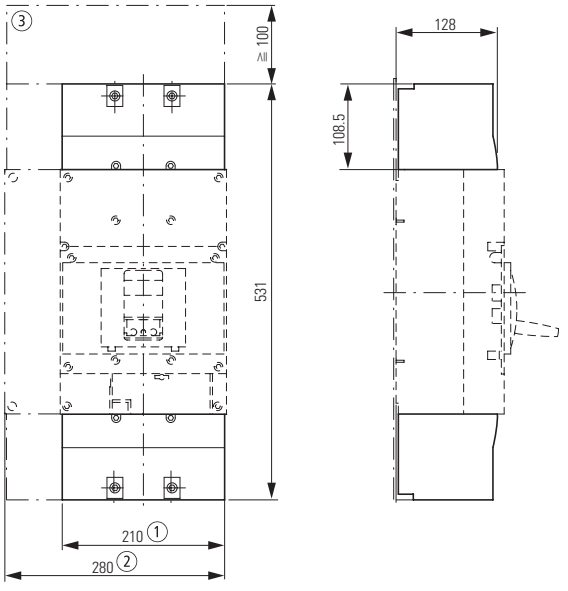


① Blow out area, minimum distance to other parts ≧ 100 mm up to 690 V

② Minimum distance to adjacent parts ≧ 15 mm

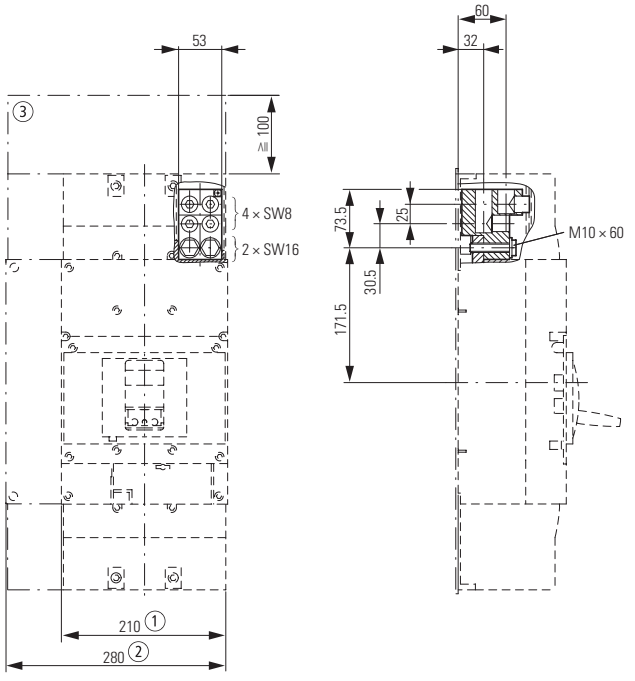
Covers

NZM4(-4)-XKSA



Tunnel terminal

NZM4-4-XKA



① 3 pole

② 4 pole

③ Clearance from conductive parts ≧ 100 mm up to 690 V

Size 4: accessories NZM4…-XKM

Screw connection

Module plate **Flat cable terminal**

Single hole NZM4(-4)-XKB

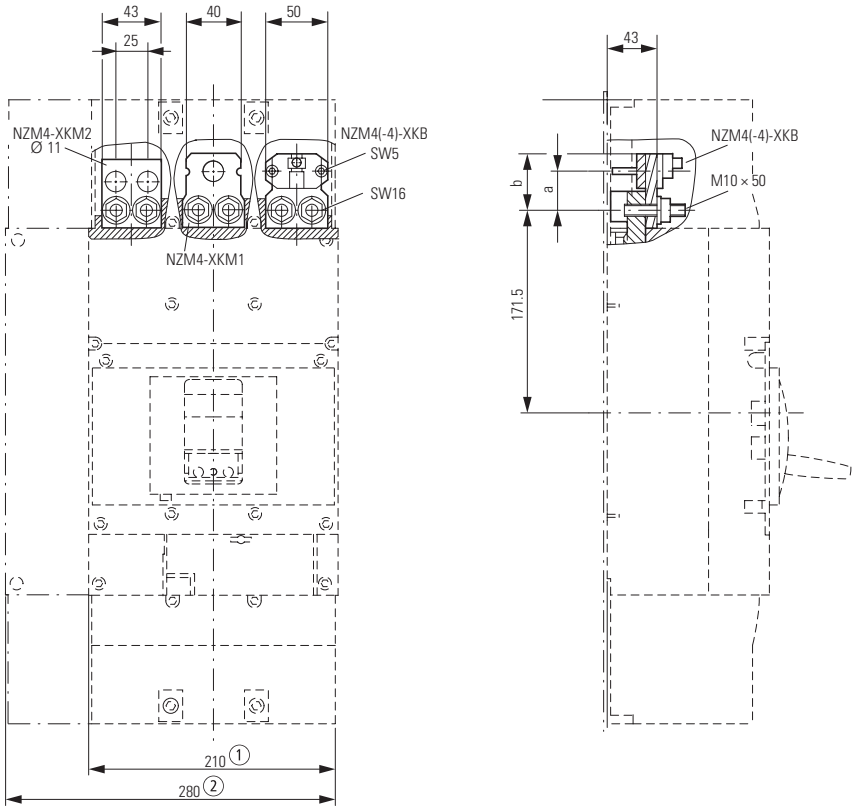
NZM4(-4)-XKM1

2-hole

NZM4(-4)-XKM2

Part no.	a	b
NZM4(-4)-XKM1	36	47
NZM4(-4)-XKM2	32	40
NZM4(-4)-XKB	–	47

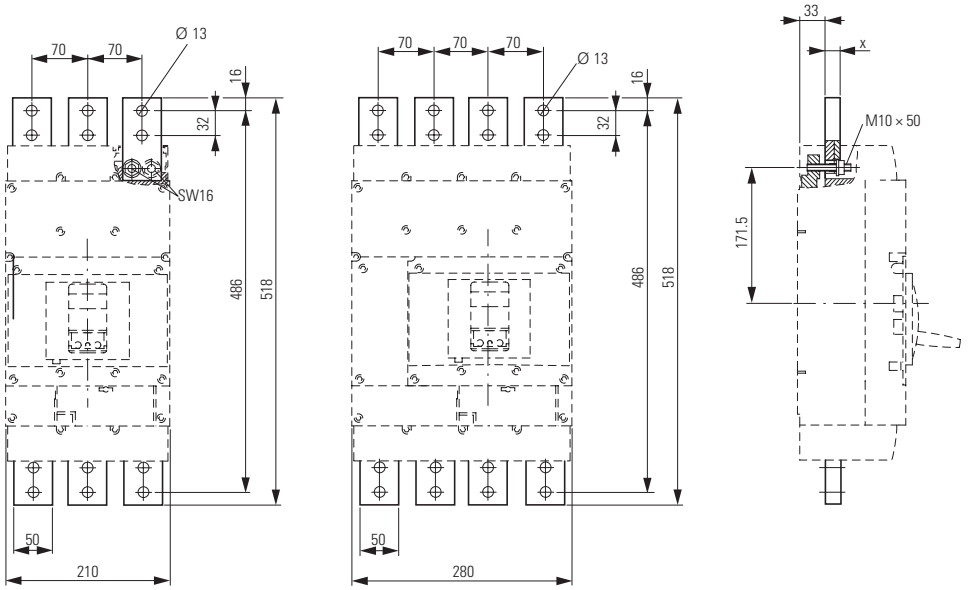
① 3 pole
② 4 pole
③ Clearance from conductive parts ≧ 100 mm up to 690 V



Module plate

2 holes, vertical

NZM4(-4)-XKM2S...

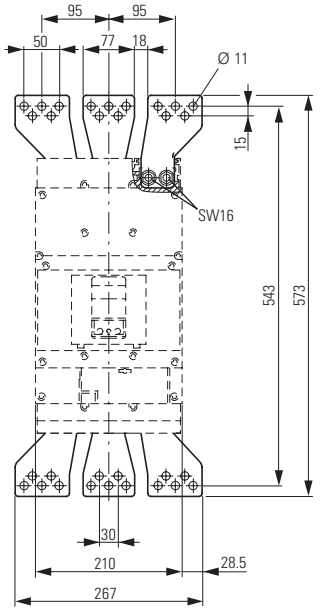


Part no.	x
NZM4(-4)-XKM2S-1250	12
NZM4(-4)-XKM2S-1600	20

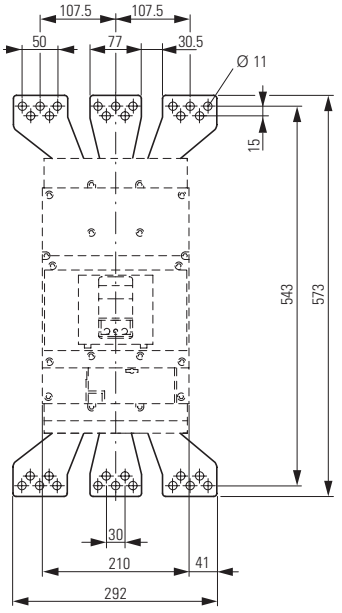
Size 4: accessories NZM4-XKV…

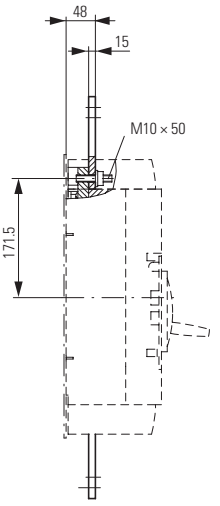
Connection width extension

NZM4-XKV95

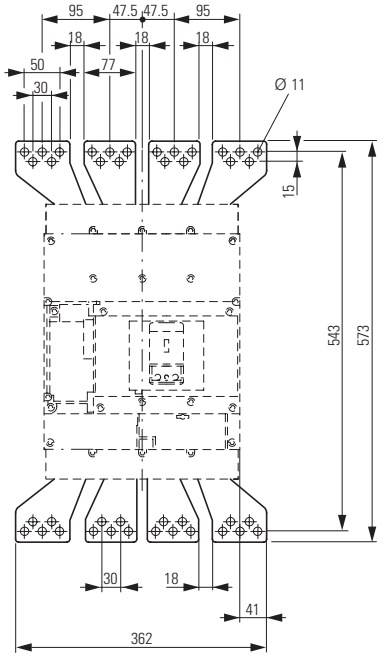


NZM4-XKV110

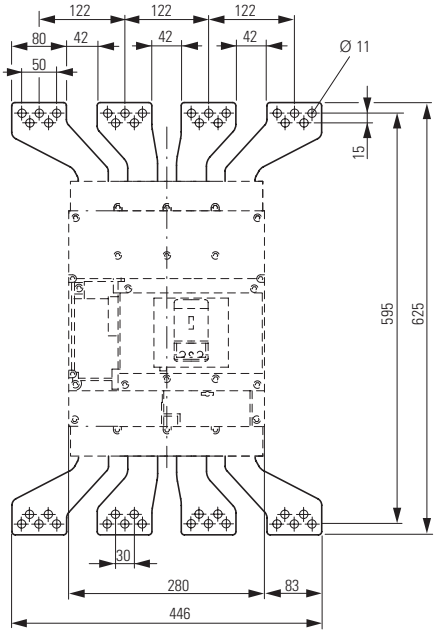


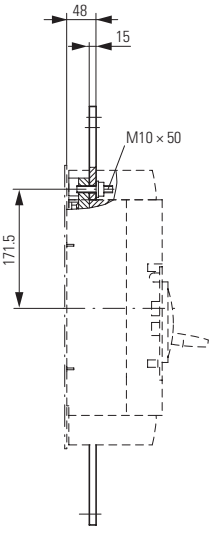


NZM4-4-XKV95



NZM4-4-XKV120

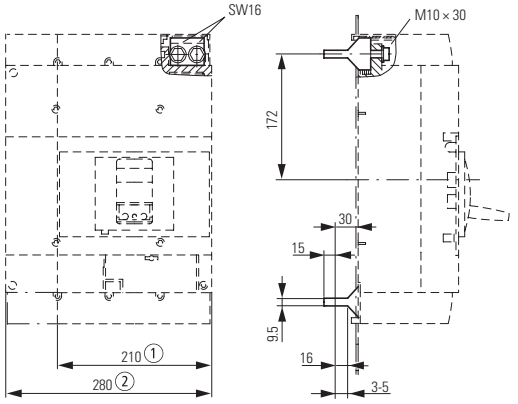


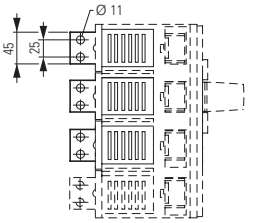


Size 4: accessories NZM4(-4)-XKP, NZM4(-4)-XKR

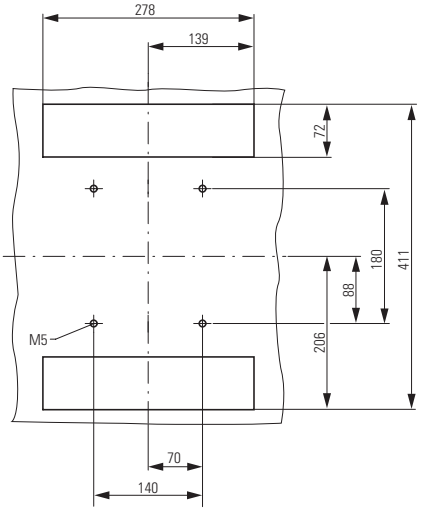
Connection on rear

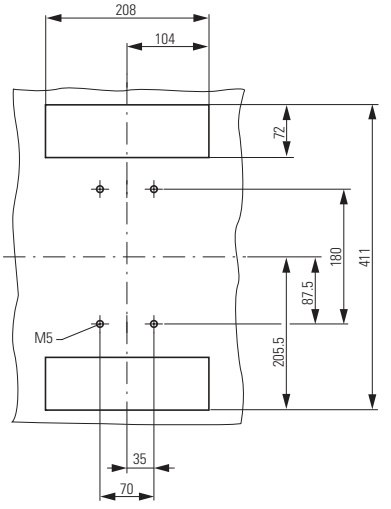
NZM4(-4)-XKR





Fitting on mounting plate

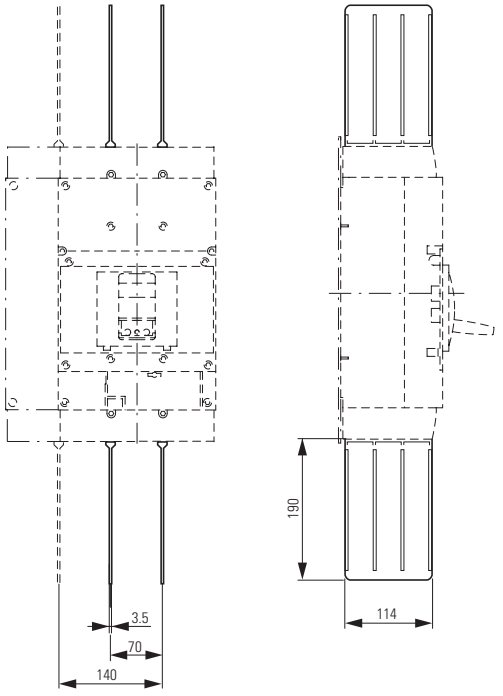




Rear connection possible also with rotation by 90°.
① 3 pole
② 4 pole

Phase isolators

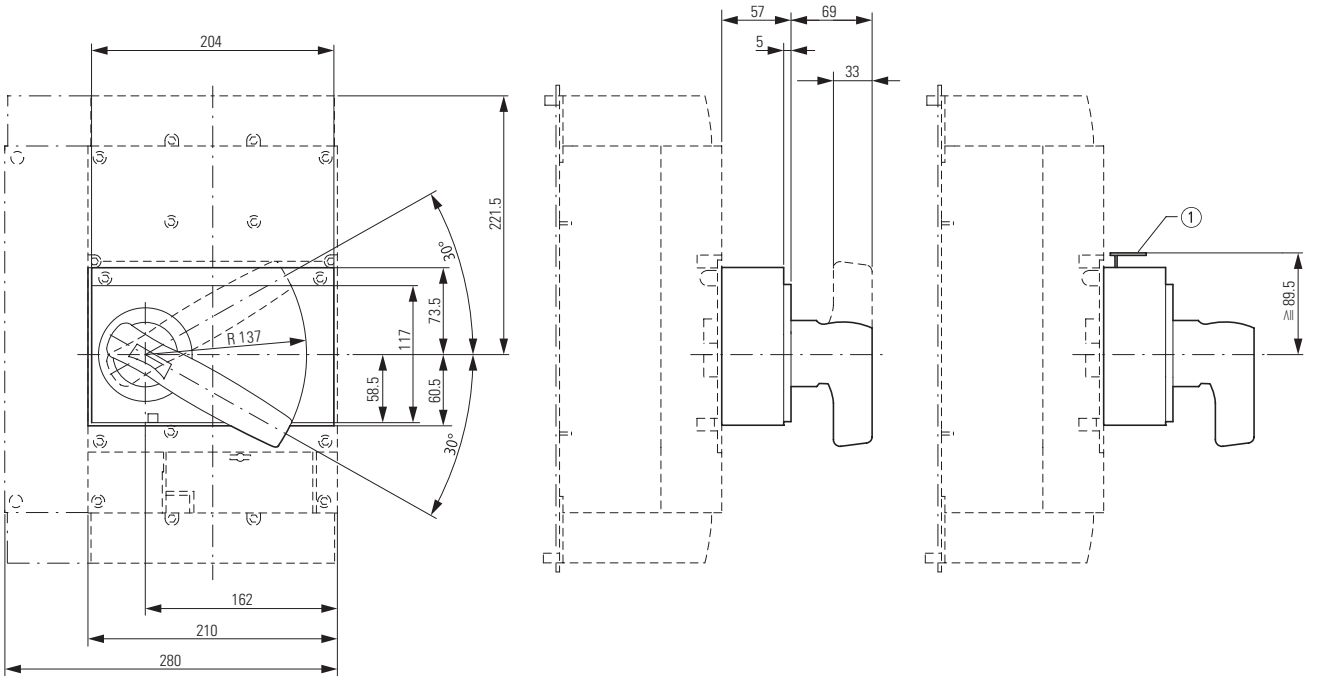
NZM4-4-XKP

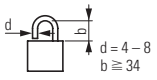


Size 4: accessories NZM4-XDV..., NZM4-XTVD...

Rotary handle on circuit-breaker

NZM4-XDV(R)

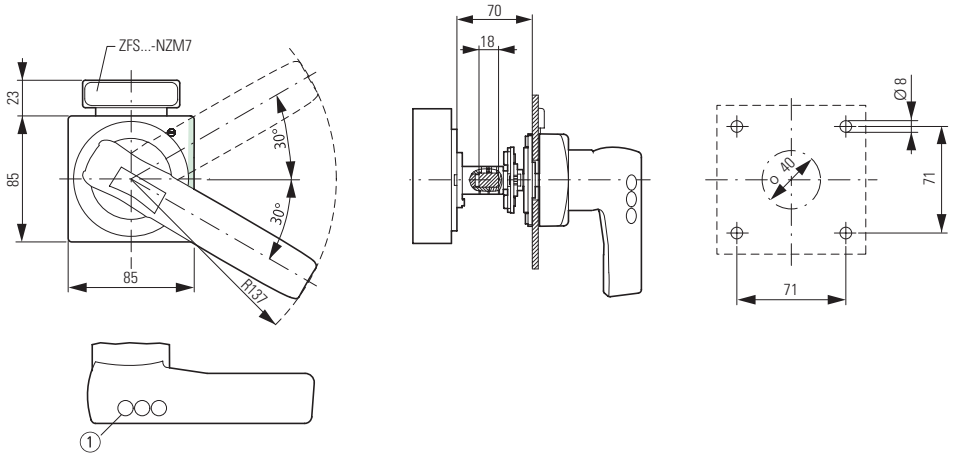


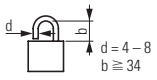


① Up to 3 padlocks

Door coupling rotary handle

NZM4-XTVD(V)(R)...



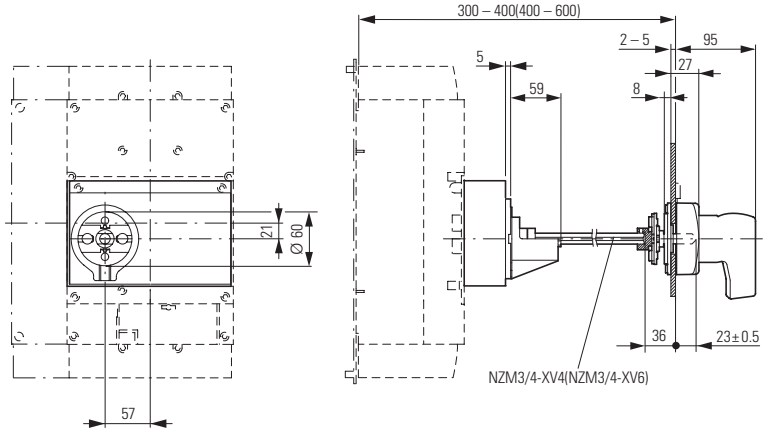


① Up to 3 padlocks

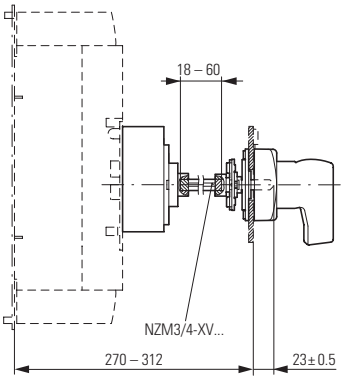
Size 4: accessories NZM4-XTVD..., NZM4...-XV, NZM4-XS...

Door coupling rotary handle with extension shaft

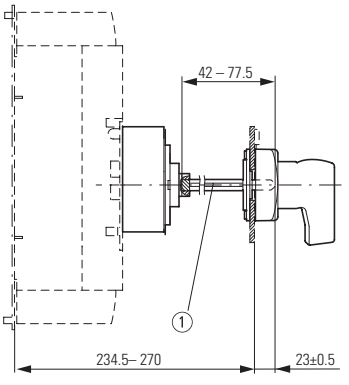
NZM4-XTVD(V)(R)
NZM3/4-XV4(6)



NZM4-XTVD(V)(R)-60

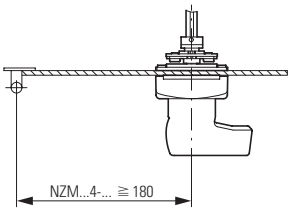


NZM4-XTVD(V)(R)-0



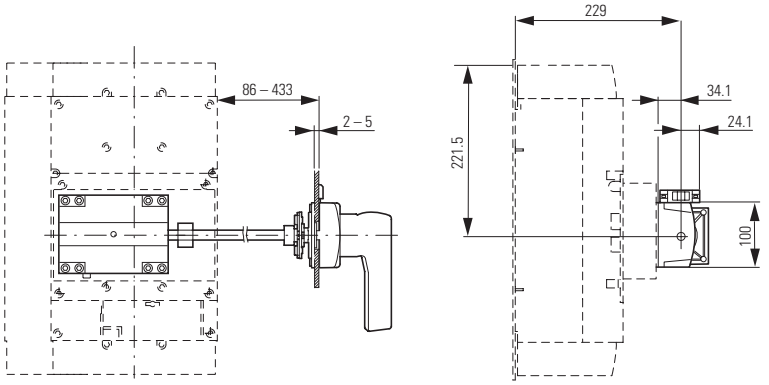
① Special tip

Minimum door coupling rotary handle clearance from door pivot point



Main switch mounting kits for side-wall mounting

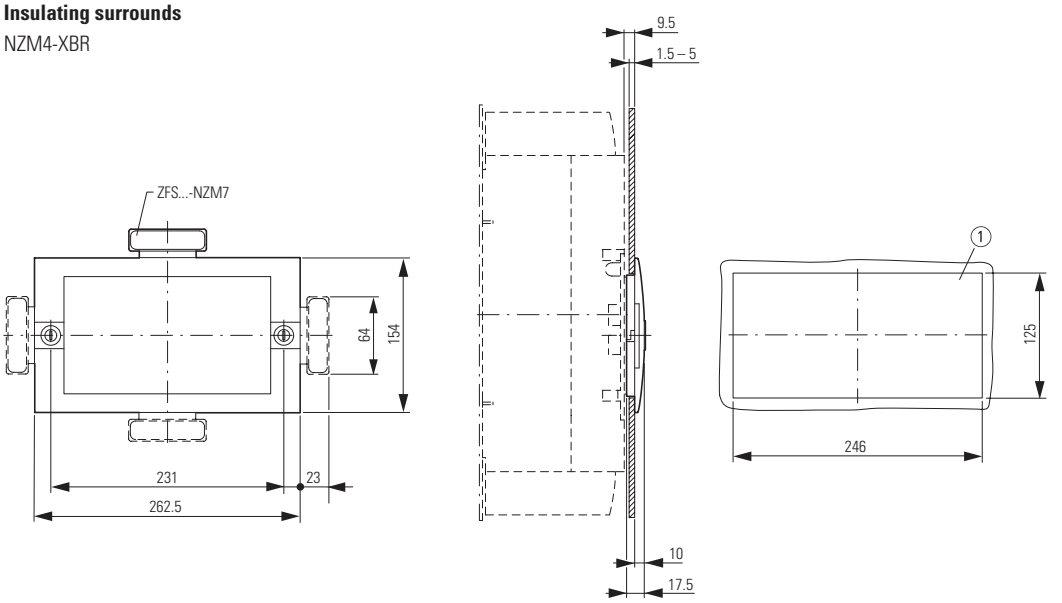
NZM4-XS(R)-L
NZM4-XS(R)-R



Size 4: accessories NZM4-XBR, NZM4-XMV, NZM4-X...

Insulating surrounds

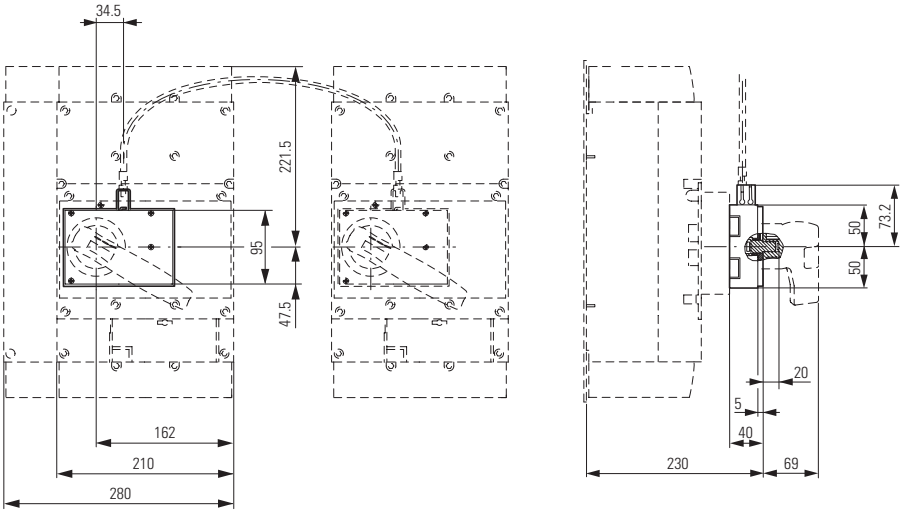
NZM4-XBR



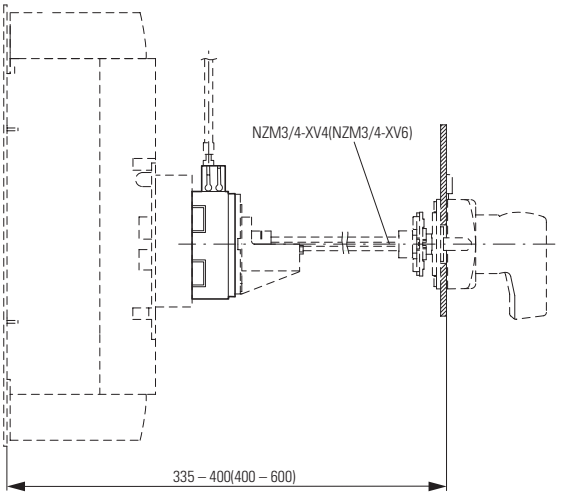
① Mounting aperture

Mechanical interlock

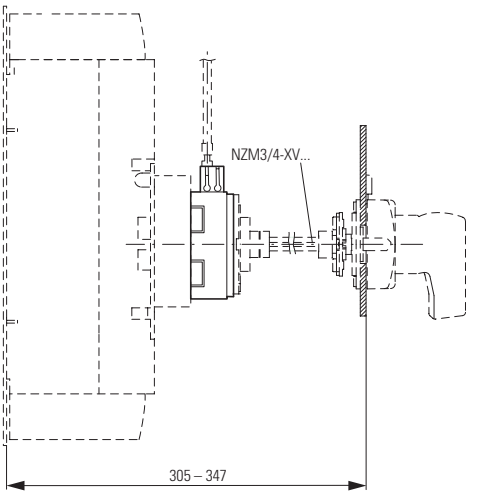
NZM4-XMV + NZM4-XDV(R)



NZM4-XMV + NZM4-XTVD(V)(R)



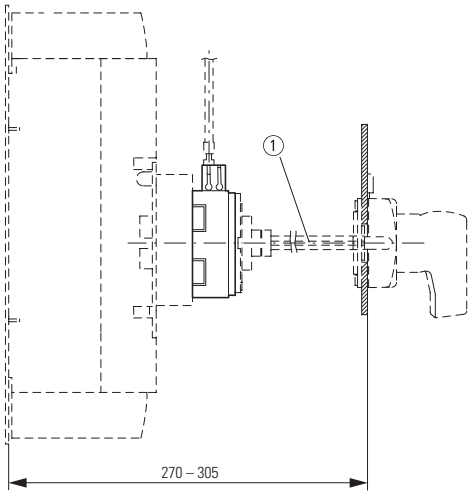
NZM4-XMV + NZM4-XTVD(V)(R)-60



Size 4: accessories NZM4-XMV, NZM4-X…

Mechanical interlock

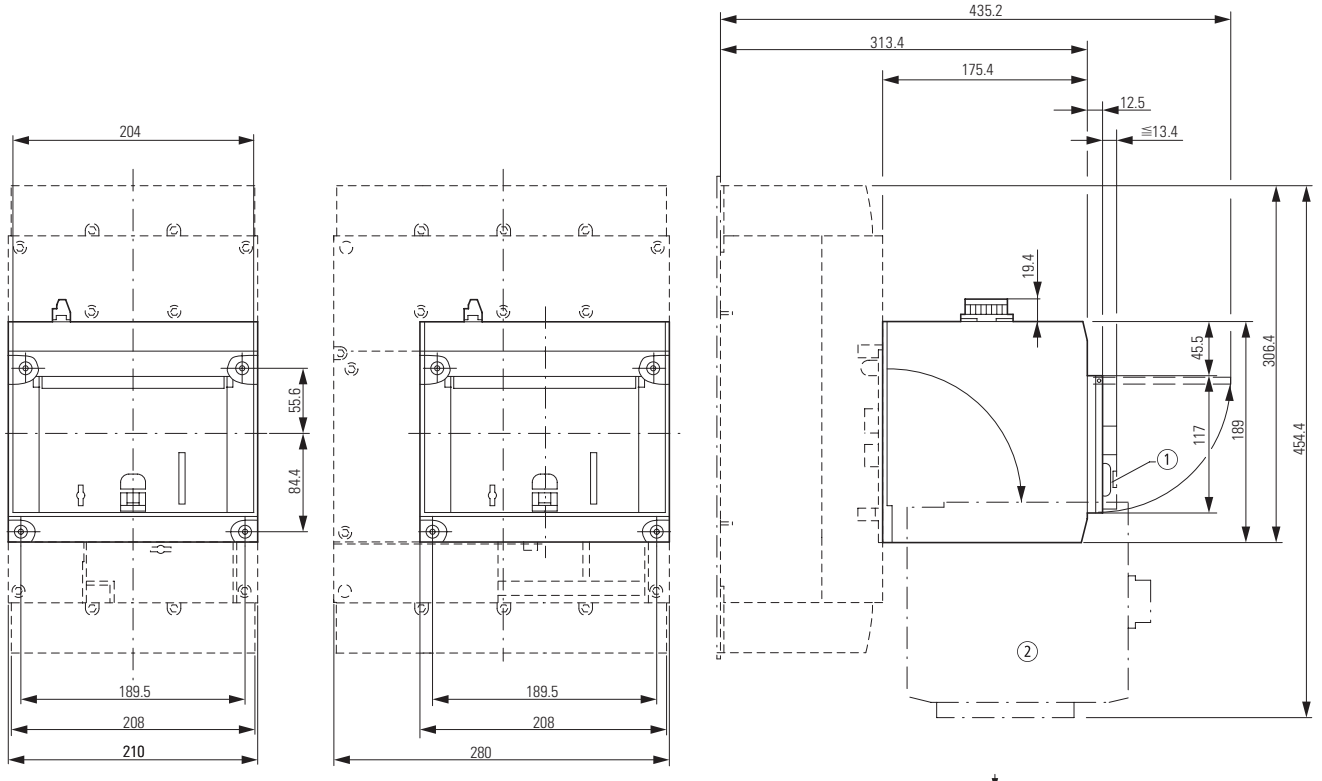
NZM4-XMV + NZM4-XTVD(V)(R)-0

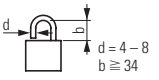


① Special tip

Remote operator

NZM4-XR…



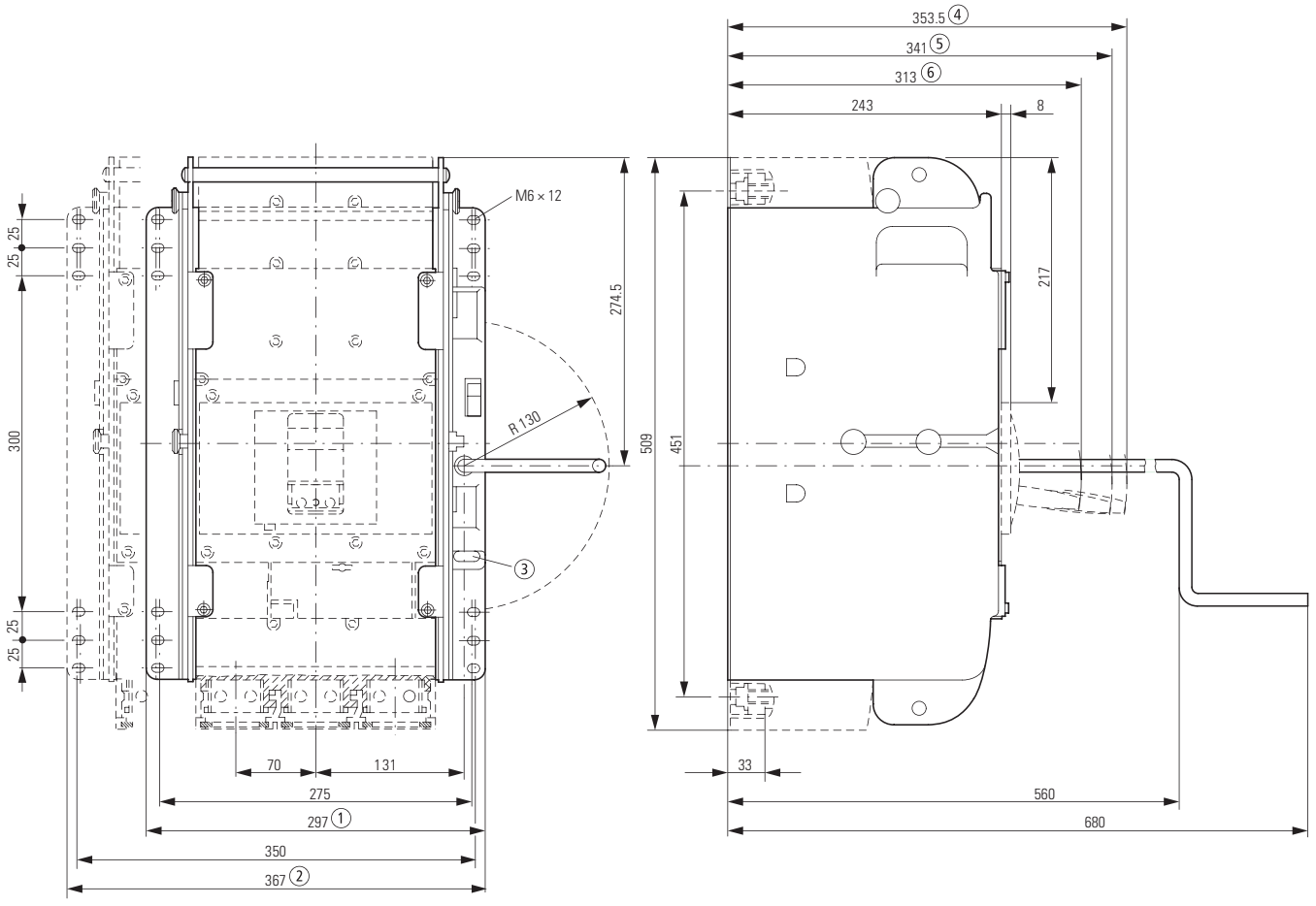


① Up to 3 padlocks
Remote operator folded

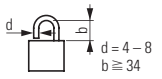
Size 4: accessories NZM4…-XAV

Withdrawable unit

+NZM4-4-XAV



① 3-pole
② 4-pole



③ Up to 3 padlocks

④ Disconnected
⑤ Test
⑥ Connected

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Electrical Sector Asia Pacific
No.3, Lane 280, Linhong Road,
Changning District, Shanghai

Eaton Industries Pte Ltd
Electrical Sector
4 Loyang Lane #04-01/02
Singapore 508914
Eaton.com

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